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THIRTY-FIVE YEARS AT CONTREXÉVILLE

THIRTY-FIVE YEARS

AT

CONTREXÉVILLE

BY

DEBOUT D'ESTRÉES. M.D.

Consulting Physician and Former Inspector. Laureate of the Academy of Medicine, Chevalier of the Legion of Honour

Translated from the French

BY

A. C. GRYLLS. M.A.

LONDON

THE HEALTH RESORTS BUREAU,

27, SHOE LANE, E.C.

1903

WORKS BY THE SAME AUTHOR.

Des eaux minérales de Contrexéville et de leur emploi dans le traitement de la goutte, de la gravelle, etc. Paris, Ad. Delahaye, 1869.

Des gravelles rares. Paris, Delahaye, 1872.

Traitement de l'uréthrite chronique par l'eau de Contrexéville. Paris, Delahaye, 1874.

De la fragmentation spontanée des pierres dans la vessie, communication au Congrès international de Bruxelles, 1874.

Des causes de la gravelle et de la pierre, étudiées à Contrexévilles, mémoire couronné par l'Académie de Médicine (32 gravures). Paris, Delahaye, 1876.

La gravelle pileuse, communication au Congrès international de Genève, 1876.

Traitement des coliques hépatiques à Contrexéville. Paris, Delahaye, 1878.

Analyse spectrale de l'eau de la Source du Pavillon, avec la collaboration de M. Wilm. Paris, 1879.

Medical Guide to Contrexéville.—London. Churchill, 1885.

On the common origin of diabetes and the uric acid diathesis.—Lancet, May 22, 1886.

La goutte des glandes, travail présenté à l'Académie de Médecine (mai 1885).

Gouty Parotitis, and Gouty Orchitis; a paper read before the Med. Chir. Soc. of London, March, 1887.

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Formes rares de la goutte, extrait des *Annales d'Hydrologie*, Vol. XXXVI, 1891.

Des indications et des contre-indications des eaux de Contrexéville. Paris Naud, 1902.

Cent cas de Diabète (100 cases of Diabetes) traités à Contrexéville. Congrès International de Liège. Paris, T. B. Baillière, 1900.

To be had at The Health Resorts Bureau, 27 Shoe Lane, London, E.C.

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PREFACE

At the earnest request of my patients, in whose behalf I wrote, first in 1869, and secondly in 1881, works on Contrexéville in general which have long been exhausted, I again take up my pen to day.

All the monographs which I have published since those dates, although treating of diseases observed at Contrexéville, were addressed only very indirectly to the above-mentioned, as can be seen by the list on the preceding page.

It is to the aforesaid clients, then, that I address this work, and for this reason I shall hold aloof from theoretical discussions, confining myself to making them acquainted in a practical form with what I have learnt in a practice at Contrexéville of 35 years, 1868—1902. My young *Con-*

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frères, who have scarcely any opportunity of studying gout in the hospitals, will find herein some indications on rare forms of this malady, as varied as it is common in city practice.

They will find, moreover, apart from French medical works which they know well, in those of Sir Alfred Garrod, Sir Dyce Duckworth, and Sir Wm. Roberts complete treatises on the uric diathesis and on gout in particular.

When I find myself in the presence of a new patient, my endeavour is to make him understand his complaint and the treatment it requires, without entering into theories which are too abstract for him. I often talk to him as follows:

"You must understand thoroughly what you have come to do at Contrexéville, you have an excess of uric acid in the blood, which can give rise to various manifestations; the principal being *gravel*, *gout*, *gouty diabetes*, even *eczema*.

It is important to eliminate this uric acid by the natural passages, which are: the *kidneys*, *intestines* and *skin:* What is the 'Cure' at Contrexéville about to do for you? It will produce, both during and after the cure, the elimination of uric acid through the kidneys and intestines; and as for excretion by the skin, this must depend on exercise, medical rubbing, baths and massage. The most difficult problem is to prevent a relapse; this you will only solve by carefully following the prescribed regimen."

I consider that in offering the preceding explanations, I am rendering a service to my clients, who are always desirous to know why they are following a particular treatment, and what they are to expect from it. I need not repeat that these words are addressed to a patient, not to a doctor, though some of them, who have come on their own account to Contrexéville, have strongly approved of it; as has also

Sir Alfred Garrod, on the occasion of a visited recently paid to him in London. Thus, then, it is at the oft-expressed desire of old patients, and with a view to future visitors to Contrexéville, that I here gather up the fruits of a long experience, and to the above-mentioned I dedicate my work.

DEBOUT D'ESTRÉES, M.D.

JANUARY 1903.

CHAPTER I

THIRTY-FIVE YEARS AT CONTREXÉVILLE

THE Establishment and Surrounding Country, formerly and to-day. Enlargements and Sanitary arrangements. Visitors from all nations since 1868.

I ARRIVED at Contrexéville on the 1st of June, 1868, viâ Neufchâteau, at the cost of 3 long hours in a carriage, and alighted at the small house which I still occupy to-day. [1]

I had brought my microscope and hypodermic syringe for morphia, two implements then unknown at Contrexéville, where they have done so much service. The local traditions and customs, which I encountered, were that the doctors—Dr. Caillat, whom I was destined to replace later as medical inspector,

[1] For six years past, the Eastern Ry. Compy. has provided during the season a through train, with restaurant and corridor-carriages, taking passengers in 6 hrs. from Paris to Contrexéville.

Dr. Baud and Dr. Lecler—should walk in the park with their patients and give consultations in the open air. It was impossible under these conditions to take serious observations, and to control them by analyses, which our predecessors seem to have cheerfully dispensed with.

It was only with difficulty that I succeeded after 2 years of effort, in giving consultations only in my consultation-room, and thus taking complete notes, which permit me even today to turn up the history of patients, who have recently returned, and to complete than by analyses. Sometimes 10 years pass before a patient finds himself a second time at the waters; and, in some cases, it is observation of his parents who come before him that assists me in the advice I give him.

In the year 1901, I received a visit from a gentleman, who had suffered from gout for 10 years, and he brought his son, aged 20, also experiencing his first attack. Thanks to my books, I was able to hand him the letter from Prof. Charcot sending me his father in 1875, and another letter from Prof. Verneuil, sending me his grandfather in 1868; thus showing gout in 4 generations.

In 1897, I was enabled to see again 4 patients, who were sent for the first time to Contrexéville in 1872 by MM. Charcot, Rotureau and Caudmont, and had not been back for a long time, with one exception.

As for the establishment, although improved by the Company, into whose possession it came in 1864, it still left much to be desired. This Company, formed by a group of rich Paris financiers, who had themselves experienced the benefits of the 'cure' at Contrexéville had, it is true, put under new management and enlarged the hotel, then under its direction, and now let to M. Petit of the Hôtel Mirabeau. They had built baths, and rebuilt the circular galleries which surrounded the Pavillon, dating from the previous century and notoriously insufficient to shelter the drinkers, though their number was much smaller than to-day. Since then I have seen it more than trebled, while the exportation of the bottles has increased ten-fold.

There existed then no drainage, nor casino, nor theatre, and the only distractions were those provided by visitors themselves by relying on the goodwill and talents of artistes passing through. I remember

a fête given in the month of July, 1868, consisting of a concert with *tombola* and ball, which was opened by Prince Marc de Beauvau, and the Marquis de la Tour-Maubourg.

Before passing in review the improvements effected one after the other in our Health Resort, I will say a word about the notable visitors whom I have seen come in search of health, without repeating the names of those who, in the previous century, had established the reputation of Contrexéville at the Court of Louis XVI.

The army in represented by Generals d'Aurelles de Paladine, Trochu, who received his orders to leave while at Contrexéville in 1870, Frossard, de Cissey, Gresley, Paulze d'Ivoy, Février, Jamont, Gervais, Clapier and numerous others; for we see more generals than captains round the Pavillon Spring. The clergy are represented by Cardinals de Bonnechose, Caverot, Bernadou, Place, the Archbishop of Bourges etc.

The Upper Ten and Finance by the Duke de Luynes, Prince de Beauvau, Marquis de la Tour Maubourg. The Marquis Vogüé (in 1873), and his son the present Marquis (in 1893), Octave Feuillet, Duke of Trévise, Barons Adolphe and Arthur de Rothschild, Monsieur

Fould, M. Armand and Michel Heine, Baron de Hirsch, Messieurs Polofzoff and Poliakoff, Lambert de Sainte-Croix etc. etc.

England is represented by Lord Hertford, Earl of Warwick, Earl Stanhope, Archbishop of York, Lord Mayo, Lord Peel, Lord Morris, Lord Revelstoke, Lord Burton, Baron Alfred de Rothschild, Duchess of Hamilton, Lady Dalhousie, Countess Crawford, Mr. Freeman Mitford, now Lord Redesdale, Lord Cromer, Countess Dartrey, Lady Wolverton, Lady Griffith, Field Marshal Sir Frederick Haines, Field Marshal Earl Roberts, and the Marquis of Salisbury, not to mention others.

Russia by H. H. The Grand Duke Constantin Constantinovitch, whose visit to President Carnot at Nancy in 1892 opened a new era for our two countries; Prince Lobanoff, The Grand Duchess of Leuchtenberg, Princess Gortschakoff, Prince Gagarine, Prince Yousoupoff, Gen. Count Ignatieff, Generals Trepoff, Ikornikoff, Tatischeff, Brouwesky, Sinelinkoff etc.

The Grand Duchess Vladimir came also in 1902 to pay her first visit to the Source du Pavillon.

Italy by M. Depretis, General Cialdini, General La Marmora, Duke Salviati, whose son and mother,

Princess Borghése, have come for 50 years off and on to drink at the Pavillon Spring; Duke of Ceri and Prince Doria Pamphili, General Turr etc.

Finally, among distingiushed strangers, we must specially mention H. M. the Shah of Persia, who came straight from Teheran to Contrexéville in 1900 and returned in 1902, H. M. Queen Isabella of Spain, King Milan of Servia, Omer Pasha, Princess Stourdza, Mr. Lahovary, Gen. Nazaragha, Count of Grimberghe, Countess d'Asche, Baron de Rosée, Baron Selys Longchamp; Mr. Abram S. Hewitt, former Mayor of New York, Clement A. Griscom, Ward Macalister, and a numerous American Colony; in fact. I should never finish, if I recalled all my souvenirs.

There existed, in the report sent yearly to the Minister by the Medical Inspectors, a section entitled: "Improvements suggested; commenced, their utility," I say, *existed*, for on the 14th of July 1889 I received from the Ministry of the Interior the following letter:

Monsieur le Docteur:

"I have decided that the post of Medical Inspector shall be suppressed at thermal stations where care of the indigent is assured by the municipality.

Such is the case at Contrexéville.

At a time when such a decision, made on principle, and apart from all personal considerations, is destined to terminate the duties of Medical Inspector you have always discharged with a zeal and intelligence that I gratefully acknowledge, I beg to thank you for the devoted assistance which you have always rendered to the administration.

Yours etc.

CONSTANS,
Minister of the Interior.

Though this letter terminated my duties as Medical Inspector, I had exercised them long enough (July 1869 to July 1889) to have been able to propose numerous improvements, and where the Town Council was not able to carry them out for reasons I am about to tell, the Société des Eaux Minerales has put them into execution one by one.

I recounted formerly in detail the tragic event, dated 1870, which ruined for a long time the finances of the Commune and paralysed the monetary resources which might have been devoted to improvements.

Sixteen Prussian soldiers had come to make requi-

sitions and take hostages; the carriages were filled, including the Mayor, M. Roland, Senior, ready to be taken off in the direction of Vittel; when a troop of volunteers merely armed with a few sporting guns, coming out of Bulgnéville, fired a volley which killed the driver of the first carriage. The Mayor jumped out and escaped across the fields which were covered with snow. The Prussians retired to the Mairie, where they took refuge in the hall belonging to the school.

An officer escaped from Metz, Lieut. Coumes, who commanded the assailants, climbed up to a window, revolver in hand, and summoned them to surrender. This they did, and were taken to Langres.

But soon afterwards, a whole regiment arrived, and Contrexéville, like Châteaudun, was condemned to be burnt, more hostages were taken, of whom one, well known to the spring-drinkers, was the old postman Manussier, retired since 1896.

Most fortunately for our poor town, the regiment was commanded by a Polish Colonel, who was good enough to change the order for burning into a heavy fine, and it was this terrible war debt which paralysed the resources of the Commune.

As to the improvement carried out by the Société des Eaux de Contrexéville, which I was able to get effected one by one, they were as follows:—

1.—*The Drainage:* The first system of this I studied in conjunction with M. Braconnier, Mining Engineer, in 1878, but the state of the Council's finances did not render it feasible, and it was only finished in 1884.

This consists in a complete system of Doulton's stone piping of large diameter, sunk deep under the bed of the Vair and the stream of Surianville, receiving all the drainage from the hotels and private houses, which a stream of water carries away into the country. This system might well be copied by our neighbours, whose breweries and tanyards are unhealthy establishments in the highest degree.

2.—*The New Pavillon:* Spacious and very elegant, with its vast asphalted gallery, in part sheltered with glass and warmed; where the drinkers find elegant shops well supplied with embroidery and lace from the Vosges, furniture from Majorelle, glass ware from Gallé in Nancy, cutlery from Langres etc.

3.—*The Baths:* Though the Drinking Hall is the great element of success here, whence the

name *drinkers* and not bathers in speaking of visitors, baths hold an important place in the treatment, and I am glad to see great transformations taking place in this direction at the present moment. The severe winter climate of the Vosges had acted detrimentally on the enamel of the baths, but these are being replaced, and a general improvement is being made in the whole bathing arrangements so as to make them fit for the rich class of visitors at Contrexéville.

4.—*The Theatre*, inaugurated in 1876 provisionally by the Count de Saulxures, Managing Director, has been completely rebuilt, and the new, very elegant and comfortable erection was inaugurated in 1900 by H. M. the Shah of Persia; the Company has been very judiciously chosen and often contained rising stars, of whom I will only mention Jeanne Granier, Fugère of the Opera Comique, Marie Lecomte, now at the Français, and Lérand, who will prove the truth of my assertion.

5.—*The Park.* Since my arrival at Contrexéville, the extent of the Park belonging to the Establishment has almost trebled; first in 1875, by the purchase of the Parc de la Souveraine, on which has been erected for 6 years past the annexe of the Hotel de

l'Etablissement, whose management leaves nothing to be desired, (inaugurated by H.M. Queen Isabella and her suite). Afterwards was added all that portion which extends from the stream of Surianville, now covered over, as far as the Hotel Bellevue.

6.—*The Bottling.* This is now a model of its kind, as we shall see later, and has recently received the latest improvements.

In fine, all the modifications relating to hygiene have been carried out under the direction of M. Mouhot, who has, ever since 1886, displayed, in the interests of the Spa and its visitors a zeal for which we can not be too grateful.

7.—*Further improvements.* It would be unjust, as I am reviewing the improvements, not to chronicle the efforts of the inhabitants and the Municipality. M. Etienne, who has always, by his numerous buildings, given an example in progress; the regretted Schulkraft, and Felix Martin, who followed his example in erecting vast buildings at great expense; as well as MM. Alfred Martin and Barthelemy. Particular mention is due to the builders of villas; M. Morel, who has received in his villa King Milan, the former Mayor of New York, Mr. A. Hewitt, and

other notabilities; Mme Griselin, whose Villa Louise Marie was inaugurated by Baron A. de Rothschild, London; MM. Carolet and Mauffre, whose elegant architecture, replacing old tumble-down houses, has helped to be beautify the country.

As for the municipality, we have mentioned under what circumstances its good intentions were for so long paralysed; nevertheless, during the last few years, M. Morel was able to liquidate the war debt, and, thanks to the Company's help, to construct broad Embankments planted with trees; these will now match those lately planted by Legrand de Saulle, Mayor of Contrexéville before M. Morel.

There certainly exists in the municipalities of French watering-places a tendency to introduce great improvements, and that by creating funds, after the manner of German Spas, by means of a tax on visitors. The Mayor of Contrexéville requested me to represent this town at a meeting of Mayors from all Health Resorts, held at Paris in December 1897.

Though not opposed personally to the principle of a tax, which would allow French stations to compete with foreign rivals, I think that for the majority of French visitors this tax (or whatever name we give

it) would be vexatious; and am of opinion that it would be preferable to have recourse to voluntary subscriptions, in accordance with a plan elaborated at a meeting held at the Mayor's Office in Contrexéville, September 1897.

This meeting, resulting at first from the adoption of a dietary regimen (the principle of which was taken up by the hôteliers at the request of the local physicians) was followed by the creation of a *Syndicat d'Intérêt local* (Town Improvement Association), which will obviate, we hope, the annoyances of the proposed tax, by accomplishing the same desideratum viz., providing the township with the resources which it lacks.

The future will show whether the united efforts of the inhabitants, hotel-keepers, doctors and private individuals including, we hope, foreign visitors,—whether I say, this united goodwill does not suffice to replace the tax and procure for our visitors improvements, embellishments, and distractions, which they may well expect,

In short, it is annoying, when one spends 24 hours at a German Spa to have to pay the visitor's tax, as happened recently to my eminent friend Prof. Fournier, at Wiesbaden.

CHAPTER II

ANALYSES OF SPRINGS

Physiological and ulterior Effects.

WHEN, in August, 1885, I was deputed by my colleagues to deliver a lecture to *confrères* from Paris. who where visiting the Spas of the Vosges, I quoted, for the second time, a notice read on the 10th Jan. 1760, before the Scientific Society of Nancy by Dr. Bagard, physician to the last king of Lorraine, Stanislas Leczinski; and I added the following words:—

"In this notice, Bagard sums up very well the properties of the Pavillon Spring, and this precious spring is the prototype of our waters. "*Moreover, it is only on account of their resemblance more or less distant to it, that the neighbouring springs, both here and the Spas of Vittel and Martigny, have been able to gain a little notoriety.* I will not enter here upon any comparison, confining myself to acquainting you with clinical results; published

by numerous authors who have written on this Spa; calling your attention, however, to the fact that all the works published at Contrexéville rely exclusively on facts gathered at one and the same spring."

I could have wished, on this occasion too, to abstain from making comparisons, but I consider it my duty to break for once the silence which I have thought right to impose on myself up to now.

I do not mean to speak of the different springs bored here since 1879, the year when my last work on Contrexéville was published. Their clinical results are up to now negative, and, as no work recording methodical observations has yet seen the light, I think I may, for the moment at least, waive any comparative dissertation. As to analyses, in order that they may have any value in this respect, it is necessary that they should be made under the same conditions, as was the case when M. Wilm, Principal of the Laboratory for Higher Studies at Paris, and now Professor of Sciences at the University of Lille, was officially deputed in 1878 by the Minister of Commerce to re-examine the analyses of the waters of Martigny and Vittel, which were notoriously in-

sufficient; after having confirmed that of the Pavillon Spring made by M. Debray, member of the Academy of Sciences, in 1864.

They have been made, of course, apart from any private interest, with a skill uncontested and incontestable. But as these results were not at all favourable to the two rival Spas of Contrexéville, they have been left intentionally in the shade, and the legends whose false foundation they exposed have continued their way as usual. If these ungrateful daughters of the Pavillon Spring had limited themselves to passing in silence over the official documents establishing their inferiority to the mother-spring, we might have persevered in our former conduct; but, various publications having alluded to a feigned superiority over Contrexéville, I must enlighten my *confrères* and their clients and put the documents before them.

I will not mention, as I did in another publication [1], the various analyses made in 1760 by Bagard, in 1774 by Thouvenel, in 1820 by Nicholas, in 1822 by Foederé, in 1828 by Collard, in 1850 by Cheva-

[1] The Mineral Waters of Contrexéville. Paris, Delahaye, 1869.

lier and Gobley. who were the first to show traces of arsenic, in 1857 by Ossian Henry, who wrongly asserted strontium to be present, as we were easily able to assert with M. Wilm in 1878 [1] by means of the spectroscope; nor yet that of M. Nickles in 1867, who confined himself to indicating the presence of fluorine, before anyone else, in the Pavillon Spring.

Analysis of the Pavillon Spring made in 1864 by M. Debray, Member of the Institute, verified in 1878 by M. Wilm.

Free Carbonic Acid		0·008
Bicarbonates	Calcium	0·402
	Magnesia	0·035
	Iron	0·007
	Lithium	0·004
Sulphates	Calcium	1·565
	Soda	0·236
	Magnesia	0·030
Silica		0·015
Chlorides	Potasssium	0·006
	Sodium	0·004
Fluoride of Calcium		Traces
Arsenic		Traces
	Total	2·384

[1] Spectral Analysis of the Water of Pavillon Spring. Bullet. Acad. Médec. 1879.

Analyses of the waters of Vittel and Martigny, made by order of the Ministry of Commerce, by M. Wilm, Principal of the laboratory for Higher Studies, Faculty of Paris, and published in the collection of works of the consultative Committee of Hygiene, 1880, p. 341.

ANALYSIS OF THE WATERS AT MARTIGNY.

Temperature 10·8°.

Carbonic Acid free	0·0101
„ „ Combined	0·2367
Carbonate of Calcium	0·2600
„ „ Magnesium	0·0030
„ „ *Iron*	0·0014
Silica	0·0018
Alumina, Phosphates, Fluorine	Traces
Sulphate of Calcium	1·5939
„ „ Magnesium	0·2700
„ „ *Lithium*	0·0002
Chlor. of Magnesium	0·0071
„ „ Sodium	0·0071
Silicate of Magnesium	0·0116
„ „ Sodium	0 0204
„ „ Potassium	0·0063
Organic Matters and losses	0·0250
Total	2·2098

ANALYSIS OF THE WATERS OF VITTEL GRANDE SOURCE.

Temperature 11° c.

Carbonic Acid free	0·0658
„ „ Combined	0·2580
Carbonate of Calcium	0·2859
„ „ Magnesium	0·0043
„ „ Iron	0·0027
Silica	0·0022
Sulphate of Calcium	0·6039
Alumina, Phosphates, Fluorine	Traces
Magnesium	0·2393
Lithium	0·0002
Chlor. of Magnesium	0·0053
„ „ Sodium	0·0053
Silicate of Magnesium	0·0107
„ „ Sodium	0·0162
„ „ Potassium	0·0109
Organic Matters and losses	0·0115
Total	1·9400

We will pass rapidly over the analysis of Martigny waters, merely mentioning that this place has tried to bring into prominence its *richness in lithium, which, as can be seen, is like Vittel, notably inferior when compared with that contained by the Pavillon Spring.*

This superiority in lithium, so much praised and boasted of in the pamphlets on Martigny, which went so far as to claim the best lithiated Spring in Europe, melts away on perusal of official analyses.

As to the Vittel Spa, which we have always considered, with reason, as an *inferior* note in the gamut of the calcic lithiated iron waters of the Vosges, as is well proved by the above mentioned analysis, we beg our readers to weigh well the following documents.

In 1889, Sir Dyce Duckworth, Professor of Clinical Medicine at St. Bartholomew's Hospital, London, published a treatise on gout,[1] deservedly esteemed in France as in England. A medical man in Vittel undertook its translation in 1892, and Sir Dyce had occasion to verify once more the truth of the axiom, *traduttore traditore*, as will be seen by a mere comparison of texts.

In the chapter treating of Glycosuria and Gouty Diabetes,[2] Sir Dyce Duckworth expresses himself thus:

"Physical exertion appears to diminish glycosuria.
"In summer recourse should be had to some high
"inland resort or Spa and amongst these Carlsbad,
"Kissingen, Vichy, Contrexéville, Plombières and
"Neuenahr are in repute. Cases of diabetes are
"annually reputed to be cured at each of these and

[1] London, Chas. Griffin, Publisher. 1889.
[2] Page 395 loc. cit.

"at other watering places. Mr. Debout d'Estrées "has observed at Contrexéville that the elimination "of uric acid is simultaneous with the disappearance "of glucose during treatment there." Let us look now at the translation of the Doctor at Vittel.[1]

"Physical exercise appears to diminish Glycosuria, In summer, the patient should be sent to some high station, or to one of the watering places well-known, such as *Carlsbad, Kissingen, Vichy, Vittel!*"

I leave my readers to judge of the good faith of this translation, which very justly caused the English author to be indignant when he heard of it, in 1894, through his sister who was under my care at Contrexéville.

I am glad at all events to free my colleague and friend Dr. Bouloumié from all responsibility in these proceedings, so unworthy of the medical faculty. He himself testified his strong disapprobation of it to Sir Dyce Duckworth through Dr. Huchard, whom we were visiting together during his stay in Paris.

It grieves me, as I have said, to have had to break silence over these regrettable facts, but I owed it to Contrexéville, where I have been practising for

[1] Traité de la Goutte. Alcan. Editeur, 1892, p. 367.

35 years, not to let the attack on its ancient and solid reputation pass unnoticed.

In order to close this chapter more cheerfully, I cannot resist the desire to quote the reply I made one day to two English patients who had been given this book, without an author's name: *Vittel: Its superiority to Contrexéville*—translated into English. "What do I think of it, say you? Look at this gentleman near you. His name is Solomon Halphen, banker in Paris; he is Vice-President of the Mineral Water Co. at Vittel, where he owns land, and he drinks—at the Pavillon Spring."

PHYSICAL PROPERTIES OF THE SOURCE DU PAVILLON.

The water is cold, 11°, limpid, in density a little superior to distilled water, 1002·5, in round numbers. However, to be more precise, I will cite the experiments of Dr. Labat, former President of the Hydrological Society in Paris; who, having come in 1878 to make experiments at the spring itself, assigns to it a density of 1002·35; while, according to the same author, the density of the Grande Source at Vittel is 1001·5. He adds: "Since these waters are hardly at all gaseous, and are chiefly mineralised by sulphates

and carbonates, their density corresponds very nearly to their mineralisation."

This remark confirms my assertion that Vittel is a lower note in the scale of waters which have their origin in the bed of shell-lime from the region near Contrexéville.

The taste of the water is slightly styptic; taken at the spring, it has a ferruginous taste which is lost in transport. Left to the action of the air, its gets covered with an *iridescent film*, which is redissolved on shaking. What is the origin of this film? Does it indicate a kind of substance analogous to glairine or barégine which is noted in the waters of the Pyrenees; I have never been able to take stock of it, not having the necessary requirements for this analysis at Contrexéville, where I limit myself to making every year more than 1000 analyses of urine.

The *reaction* of the water of the Pavillon Spring is very feebly alkaline, without action on litmus; it turns syrup of violets green.

The *iron* which it contains covers the reservoirs and conduits through which it runs with an ochreous layer, which adheres even to glasses plunged into the spring, and gives them a look like oxidised iron.

The yield of the Source du Pavillon, after the new tapping works finished in 1859 by M. Jutier, Mining Engineer, was 144,000 litres in 24 hours; it is perceptibly constant, as can be seen by patients who frequent it during the heat of summer. On the occasion of the last quinquennial Congress of the Mineral Water Society, in which I took part as Inspector, the Mining Engineers assured me that the volume of the flow measured during 50 years had been always more than 100,000 litres.

PHYSIOLOGICAL ACTION OF CONTREXÉVILLE WATER— STUDIES IN EXPERIMENTAL PHYSIOLOGY.

The method of action of Contrexéville waters has not, up to now, been satisfactorily explained. At the Session of the Hydrological Society, 16 Aug. 1883, the venerable President M. Durand Fardel, not being satisfied with the words *lixiviation* and *scouring*, by which numerous doctors sought to denote the action of our waters, was nevertheless unable to find the explanation.

"The waters of Contrexéville, said the former Vichy practitioner, are much extolled in the treatment of gout; but it is difficult to assign to these

waters a real speciality in the matter of uric diathesis, according to their composition, Bicarbonate of soda is, in some degree, the sign of this specialisation in mineral waters. But this spring is only feebly carbonated, almost entirely sulphate, and their bases are nearly all calcic or magnesian. However, we must well consider the observations which have been made by the doctors who practice at this resort." We thought it our duty to protest against this speciality of bicarbonate of soda, but Dr. Caulet, whose position as Inspector at St. Sauveur raises him above all suspicion of partiality, has exactly summed up the questions at issue in the following answer.

"In the comparison which he has just established between the action of alkalines like Vichy and the Vosges Group of Waters, as to gout, gravel, and uric dyscrasia, M. Durand Fardel fails to recognise in bicarbonated waters their alterative action. These latter alone would hinder the formation of uric acid, the others would act only by assisting its elimination. This proposition seems to me much too positive; without entering here on the medical history of calcium and magnesia, I would remind you that all authors agree in attributing to these

substances a more profound action than to alkalines properly so-called, in the treatment of Gout and Gravel."

Apart from the opinion expressed by Dr. Caulet on the part played by Calcium in the uric diathesis, do we not remember the remedy of Miss Stevens, to whom the English Parliament in the last century voted a national reward?

This remedy consisted chiefly in calcium salts extracted from egg-shells, oyster- and snail-shells. Thus we see that the good qualities of calcium have been known for a long time.

In order to bring into prominence this action of calcium on the blood, I commenced a series of physiological experiments in which I proposed, after having made intra-venous injections from the Pavillon water into different animals, next to inject separately each of the constituents of the mineral water in order to bring to light the part played by each of these elements.

Commenced in the Laboratory of M. Laborde, Principal of the Physiological Research Institution in Paris, and continued in London, thanks to the kindness of Mr. Roy, Director of the Brown Institute, these experiments, too technical to be reproduced here, confirmed my numerous observations.

The Contrexéville water possesses two properties:

1.—That of *stimulating the smooth fibre* which cover the digestive, urinary and bilious tracts.

2.—*An alterative action*, working on the blood so as to free it from its uric acid.

Clinically, these two hypotheses are verified daily by patients drinking at the spring.

They see, in fact, their appetite develop to such a degree that it has to be moderated, and the stomach functions become regulated; a stimulus to the intestines is marked by two or three evacuations every morning, borne without fatigue by the patients, who after the cure, preserve in a measure the benefits of the increase in tonicity afforded to the muscular fibres of the digestive tube. As to the effect on the muscular coating of the urinary passages, this is well known.

The numerous expulsions of calculi which take place at Contrexéville show, among other things, its action on the kidney and ureter. As to the muscular fibre of the bladder, Civiale pointed out even in 1837 the action of Contrexéville water on the morbid bladders of old men by saying": This effect consists in establishing vesical contractility which is always enfeebled in these diseases."

More recently, in 1878, I demonstrated it in the same manner by employing it in cases of incontinence of urine in children, which is mostly due to a weakness of muscular fibres in the neck of the bladder.

I shall return to this subject in the chapter devoted to maladies treated at Contrexéville.

2.—The *alterative* action of the water from the Source du Pavillon is no less remarkable, and can be easily proved. Without speaking of modifications in the condition of the blood in the case of the innumerable gouty and gravelous patients observed during 35 years at Contrexéville, I will confine myself to pointing this out in diabetic cases; as will be seen later on by the observations I shall make, all or nearly all the diabetics who come to Contrexéville see at one and the same time sugar disappear gradually and uric acid appear in their urine. This is visible at first only microscopically, but later is quickly evident to the naked eye. This assertion, easily proved, shows two things; first the truth of Marchal de Calvi's opinion on community of origin for diabetes and uric diathesis; next, the moderating or alterative action of mineral water on the diabetic's

blood. This action could not be explained by a process of washing or lixiviation, when we see sugar give place to uric acid, and produce a profound and salutary change in the condition of patients, who thus recover their health.

Subsequent effects. There is an error prevalent among invalids who come for the first time to appeal to the efficacy of our waters which should be recti fied. They think the results of the cure ought to be immediate, and are despondent if they cannot trace them before the end of their treatment. My respected predecessor in the Inspector's office, Dr. Caillat, had already studied this interesting question in a pamphlet crowned in 1864 by the Academy of Medicine. „The after-effects, M. Caillat tells us, are determined by a spontaneous effort of the organism under the influence of hydro-mineral treatment and are characterised in the majority of cases, as regards the kidneys and bladder, by an abundant emission of pathological products."

During my long practice I have verified the assertion of Dr. Caillat, and I warn my patients, when they go away, of this outburst of after-effects. Though these may manifest themselves, much more

rarely, in the liver and biliary passages, they are most generally evident in the urinary tract. They consist most often in an abundant emission of uric acid coming on from 5 to 15 days after the cure, apart from any drinking of mineral water. It is thus that the modifying action of the organism is clearly shown, or the alterative action of which we spoke. It is always of most happy augury for the patient's future. I will just cite one example. Dr. F. of Frankfurt came to Contrexéville in 1875 and 1876 for various troubles seated in the digestive tube and its appendages, which he very rightly attributed to uric diathesis. The urine did not contain, either on arrival, or during the cure, any uric acid, even microscopic; but on his return, within a fortnight, there supervened a copious expulsion of red sand, followed by the disappearance of all morbid phenomena. His colleagues at Wiesbaden, who refused to admit this action of Contrexéville waters, were, however, forced, in face of material proofs furnished them, to yield to evidence.

It would be easy for me, as may be well seen, to multiply there examples, notably in the case of English ladies descended from successive gouty genera-

tions. They show, on arriving at Contrexéville, symptoms which would surprise more than one French practitioner, such as *gouty sore throat, gouty headache*, which disappear by dint of elimination through the urinary passages of an abundant quantity of uric sand.

MODE OF ADMINISTRATION OF THE WATERS.

1.—*Internal Usage.* The happy results of the hydro-mineral cure at Contrexéville are evidently due to the ingestion of mineral water.

How and in what doses must it be drunk? The physician alone can determine this. In fact, what comparison can be established between a subject with gravel, aged 40, strong and vigorous, a septuagenarian whose bladder is weak, and a woman showing an acquired or hereditary disease, and these over-worked dyspeptics whose number increases every day in this 20th century, a type of patient so common in the United States, but met with more and more in Europe?

It is most necessary that the doctor should know well the temperament of his patient and the manner in which his organs respond to medicine before prescribing the doses. Even after practising so long at

Contrexéville, I would not undertake, as is wrongly done by a few colleagues in Paris, to indicate to a patient, on his first arrival at the Spa, the treatment he will have to follow, if I could not supervise him and modify it according to the effects he will experience at the spring. I cannot, among other things, tell in advance to what extent it will affect his kidney and intestines.

My line of conduct is invariably as follows: *obtain the desired result with the minimum quantity of mineral water.*

The quantity of water drunk by invalids at Contrexéville has been greatly exaggerated. It has even been stated (Annuaire des Vosges, 1837) that the average is 15 to 20 glasses, which is absolutely erroneous.

It is not the fact that at Contrexéville, as elsewhere, the quantity of water to be drunk has been gradually reduced by doctors whom I have seen practising there during the last 35 years. However, the diminution has not yet obtained that reported at Vichy, where people nowadays only proceed by fractions of glasses. What would Mme. de Sévigné say, who tells us in her world-famed letters, that on her arrival

at Vichy, after having been bled and purged, she started with 12 glasses of the Grande Grille?

I do not say that at Contrexéville we do not see invalids swallow fairly considerable quantities of water; they apply themselves to it with a kind of vainglorious boasting which often has the most disastrous consequences.

In fact, in the region of Spas, everybody takes a fancy to practise medicine; people come to the waters for 2 or 3 years or more, then they have got *experience;* they have been relieved or even cured, and wish to relieve or cure others; they drink "top-doses" with impunity and advise their friends to do the same! We refer these imprudent counsellors to the treatise of Dr. Caillat (which was also "crowned" by the Academy in 1866,) on "Serious Accidents, sometimes even fatal, occasioned by ill-advised use of Contrexéville waters."

In fine, without quoting examples from this treatise, which shows 15 observed cases of retention of urine, I could prove them from my own notes or those of *confrères* who have called me in consultation.

In most instances, what happens is this. A patient suffering from bladder or prostate has for his neighbour

a fat victim to gravel who constantly visits the waters; the former has been prescribed feeble doses and gets impatient at the slowness of results. "Do as I do," says the professor of the *table d'hôte*, "and don't listen to the doctors." The unhappy man gives in, and we see him arrive in the consulting-room one morning with a complete retention. If he consults us at once, he gets off with a lost 'cure'; but if he procrastinate, the most serious accidents may result, especially if the kidneys are affected at the same time as the bladder.

On the contrary, if well administered, by half or whole glasses, at intervals of 15, 20, or 30 minutes, at one or several visits according to the case, the water of the Pavillon Spring, *the great friend of the stomach*, as Dr. Patissier wrote in his report to the academy of Medicine in 1857, has never, to my knowledge, done harm to anyone and has restored health to thousands and thousands of patients.

2.—*External Treatment.* In spite of the large part played by the ingestion of mineral water, its external applications are very useful for most of our invalids.

Baths. The baths, which are completely re-equipped, render signal help to gravel patients.

Douches, local and general, are most useful accessories to the treatment by drinking.

Sitz baths with running water have given me very good results in certain prostate affections.

Internal Douches, either in the bath, or in a special cabinet, are most useful in uterine maladies. This latter remedy has given me special results in cases of several sterile young women, by suppressing a catarrhal state of the uterus, the sole obstacle to their maternity. This effect of the astringent water of Contrexéville had been pointed out in 1868 by Dr. Baud; and I know, for my part, of four babies (one of whom has become a brilliant officer) who owe their birth to external treatment at Contrexéville.

CHAPTER III

GOUT

In France, it is possible for a young Doctor, like myself in my time, to pass 8 years in the Paris hospitals without meeting a single case of gout; and yet I reckoned 5 clinical professors, now passed away, among my former teachers.

To one of them, Prof. Behier, I must acknowledge a debt of gratitude for having taught me the system of subcutaneous injections of morphine and atropine, which he was the first in France to apply. He thus permitted me, at the outset of my career, to relieve numerous patients, and to popularise a therapeutic remedy which has since rendered such great service. I may be allowed to link his memory with that of my much venerated father, Dr. Emile Debout, who died in 1865 at the age of 54 years. He was really my first master, and I had the misfortune to lose him too early, just as I began to be able to assist

him in his work, especially by translations from German and English; among them a brochure, crowned in 1864 by the Institut, on "Defects in the Conformation of Limbs."[1] Its eulogy was pronounced at the Surgical Society by Prof. Guyon.

To return to my subject:

On the contrary, when one has practised 35 years at Contrexéville (where one sees more gouty patients in one season than a practitioner in 10 years, and where we meet not only French invalids, but strangers from all parts of the world) one becomes familiar with this disease in its rarest forms.

I had occasion even, in 1881, to be the first to chronicle a new form, *Parotidian gout*, and thus to render service to medical men who, only rarely meeting gout situate in the glands, would be led to dangerous errors of diagnosis, both to themselves and their clients.

Gout, the *dominus morborum* or *morbus dominorum*, as it is equally well called, this sister to Gravel, as

[1] The name of d'Estrées is that of my maternal grandfather, Baron d'Estrées, of whom I am the last male descendant. At the express wish of my mother on her death-bed in 1873, I have added it to my father's name since that time.

Erasmus named it in writing to his friend "I have gravel and you have gout; we have married two sisters"—gout, I say, is so well known as to need no definition.

Some patients, it is true, who do not wish to admit that they are gouty, from a kind of coquetry, only speak of their *rheumatism*. But even in the 1st century of the Christian Era, Aretaeus of Cappadocia wrote: "The pain common to all the joints constitutes rheumatism, but pain in the foot is characteristic of gout."

In our day, if it were necessary, the X rays would come in and clear up the diagnosis. In fact, they show in rheumatism the malformations of bone, while the tophus of the gouty are, thanks to their organic origin (urates), translucid, as we shall see by the calculi of uric acid and urates.

As to the therapeutics of mineral waters, we can say generally, without entering on details: *Rheumatism is amenable to warm waters and external medication; gout, on the contrary, to cold waters and internal treatment.*

How many gouty patient we meet at Contrexéville, in whose case the least bathing is followed by a crisis? In certain cases, even their toilette cannot be

carried out without preparations of alcohol, for the use of a sponge saturated with water instantly brings on an attack of gout! I repeat, moreover, every year to my patients: *There is no gout, there are only gouty patients; the seed is the same, but it sprouts according to the soil.* How many gouty people I have seen do a bad turn to their companions in pain, and that with the best intentions. "Such and such a remedy relieves me," they say, "take it without fear," knowing nothing of their temperament, nor of the state of the organs, such as kidneys, or heart of their colleague in misery, who allows himself to adopt a remedy which will do him the greatest harm instead of relieving him.

We admit 3 forms of gout:

Acute true gout—

Chronic or atonic gout.

Visceral gout.

Acute gout, coming on brusquely, 70 cases in 100, by the big toe, is well known to all gouty patients, but the commencement may take place in another joint, in fact even apart from the joints. The most singular *début* I know of is in the parotid gland; a lady 52 years old, mother of an eminent practitioner

who died Professor of the Paris Faculty, was seized with a painful swelling in the parotid gland. The diagnosis had been abscess, which had been pierced without result, as may be well understood; a year after, there was a new parotid attack, which ceased suddenly, to pass into the great toe, and allowed a diagnosis of gout.

The type of acute gout is the patient who, attacked by a pain in the great toe which is often sub-acute, recovers, in a period varying from several days to several weeks, entire liberty of articulation, his foot being as neat to look at as before the attack. If he will only take care of himself, i.e., eliminate the uric acid which has been the cause of the attack, and constrain himself to make no more of it, he will never have cause to dread those deformations, so painful and ugly, of which we see such numerous examples. Uric acid will be eliminated by natural passages, kidneys, intestines and skin, under the influence of hydro-mineral treatment, as can be proved daily by our analyses at Contrexéville, and this elimination will take place, as we have shown, not only during the cure, but in the weeks which follow it.

The most difficult task for the patient is to confine himself to the regimen, physical and moral, necessary to prevent a return. I say physical and moral; for since the time of Plato, who recommended us "not to exercise the soul at all without the body, but to use them like two horses harnessed to the same pole," all authors have insisted on a moral hygiene for the gouty. Excess of brain-work does as much harm to the gouty as an excess of brown meat or generous wine.

Sydenham, who, in finishing his admirable treatise on gout, paid the penalty to work by an attack, said rightly that gout killed more clever people than fools, *plures interemit sapientes quam fatuos.*

If overwork or painful moral emotions can bring on an attack of gout, we see sometimes a pleasant emotion occasion a healthy reaction; instance, for example, a wealthy landlord in the South, who, receiving one day the news of the success of a pupil in a difficult examination, began to mend almost immediately from an attack which had kept him to bed.

Ought we to respect a gouty attack and obey the precept of Trousseau:—Patience and flannel? Such is not our opinion; and if on the one hand, we

disapprove of the patient who, by violent remedies, suppresses all attacks at the outset, thus running the risk of being carried off by a transference of the gout to his internal organs (retrocessive or ascending gout) we cannot let a gouty patient suffer cruelly without trying to calm his pain. Besides all the various local applications which I shall not enumerate, the most recent being collodion ricinated, salicylate or with morphia; or applications of methyl salicylate obtained synthetically; I do not hesitate to administer internally tincture of fresh colchicum flowers gathered in the neighbourhood of Contrexéville, either pure, or with addition of sulphate or bromo-hydrate of Quinine, even at times belladonna.

It is impossible, naturally, to prescribe a formula equally suitable to all gouty people, who, I repeat, are all exceptions. Age, sex, temperament peculiar to the patient, origin of the malady, hereditary or acquired, complications; gravel, diabetes etc., state of the organs, kidneys, heart, liver in particular, are all factors to be taken into account in the treatment of the gouty.

One fact alone is sure; make him eliminate his uric acid. This is the business of the Contrexéville

cure; and prevent him from forming any more; this depends on himself. *Chronic gout* can most often succeed acute gout when the patient has done nothing, or, on the contrary, has done too much to fight it. It will come out sometimes in hereditary gouty subjects, who are visited by the malady from a very early age. I possess 67 observations in which hereditary gout has appeared between the 5th and 15th years, and that in both sexes; for the last patient I had to treat, a gouty lady, aet. 49, had her first attack when 12 years old.

The attacks of chronic gout are less acute, but much more prolonged; they yield less readily to medical treatment; but, on the contrary, gain the greatest advantage from hydro-mineral treatment. In cases where chronic gout succeeds an acute state it is not rare to see patients repass this acute stage before being relieved.

I possess numerous proofs of invalids in this category, who, after having execrated the cure which gave them an acute attack, have in consequence of this attack recovered mobility in their joints. The one, surprised by having no longer need of crutches which accompanied him for 2 years; another able to put on his boots which he had not used for 3 years; others, too, able to make walks which the semi-anky-

losed condition of their feet had caused them to entirely abandon.

I do not wish to publish observations, their number being so considerable as to enlarge this work to impossible proportions, but all visitors to Contrexéville have been witnesses and will bear out my facts.

Visceral gout is that variety of the disease situated apart from the articulations. I do not wish here to dilate on this interesting question, which I lectured on in May 1885 before the Academy of Medicine; in Apr. 1887 before the Society of Practical Medicine; and in March 1891 before the Hydrological Society. I will merely mention facts I have been able to gather, if not at Contrexéville, at least from patients who came thither. The most frequent variety is *gouty orchitis*, well known and universally admitted in England. It is much rarer in France, where it just escaped being repudiated at the Society of Hospital Doctors, and would have been, probably, if the the President of the Society himself had not suffered an attack of gout in the testis. Nearly all the cases I have observed, with a single exception, were in English patients; I will speak further on about this exceptional case.

Gouty parotiditis, whose existence I was the first to announce in 1885, is a very rare form of gout. The first case, which I saw at Paris, in consultation with Dr. Bucquoy, showed gout invading successively the left parotid, right knee, right parotid, and left knee, terminating 2 months later at Contrexéville in salivation loaded with urates.

I saw a second case at Contrexéville in a patient of Dr. Boichox, who called me in consultation. The attack started in the left parotid and finished in the left wrist; but here, profiting by experience, I did not hesitate to recommend an anti-gout treatment.

I have since collected, both in France and abroad, 12 observations of parotidian gout, which I reported to the Société de Médecine Pratique (Bulletin de la Soc., 1887, pp. 145.)

Gout of the eye has only come before me in 3 cases of gouty conjunctivitis, which I shall just mention here without going into details.

GOUT OF THE SUBLINGUAL GLAND

In 1890, I was consulted by a man of 42 years, with hereditary gout, who, in the previous winter, had had a very painful swelling in the sublingual

gland, which lasted 4 days and ceased suddenly, only on the appearance of gout in the big toe. It is the only case I know besides the one reported to me by Dr. O'Connor in a discussion at the Royal Medical Society of London, in 1887, where I brought up this question of gout in the glands.

Goûty Otitis. On the other hand, manifestations of gout in the ear are admitted by most authors; though I have only observed one case in practice, that of my excellent friend, A..., former Deputy for Metz in the Reichstag, and now treasurer-general at B..., who, as a consequence of his brutal expulsion from Lorraine, had, when at Luxemburg, an attack of gouty otitis which ended in the emission of salty saliva very probably charged with urates, evidence of a gouty crisis.

Pulmonary Gout. Prof. Potain has, in a masterly Essay, published in the *Semaine Médicale*, 5th Feb. 1890, recounted the history of a patient who presented gouty manifestations at the base of the right lung. The only case which I have been called on to observe (in Jan. 1885), is sufficiently interesting and rare to allow me to depart from my rule laid down, never to publish any of the observations I

have collected in 35 large volumes, with analyses bearing on them. The enumeration of these alone would bring this work to impossible dimensions.

I will confine myself to a succinct account of it. M. M...., a man aged 60, of lymphatic temperament, had had a few attacks of gout limited to the great toes; moreover, he had been subject to renal hæmaturiæ of which the Contrexéville cure had determined the cause by leading to the expulsion of small grains of calcium oxalate.

The patient was in Paris in Jan. 1885, when I was called to him in consultation. He was afflicted with an orchitis without urethral discharge; the testis was three times the normal size, the pains of moderate intensity. It is to be observed that the pains of gouty orchitis, like these in gouty attacks, are most variable: so that gout in this individual, when it settled in the big toe, never occasioned very acute pains. As no venereal cause and no traumatic injury could be traced, I did not hesitate to diagnose *Gouty orchitis.* My diagnosis was confirmed; for, 12 days afterwards, the symptoms disappeared; at the same time as an attack of gout supervened in the right foot. But the most interesting fact was

that, after the big toe, the right lung was invaded; and Dr. Rigal, the family physician, was able to indicate with me an affection of the lungs, which presented this peculiarity, that it was not situated either at the apex or base of the lung, but at the junction of the upper two-thirds with the inferior third. The dulness extended over a breadth of three fingers, with a complete absence of vesicular murmur, which was clearly perceptible both above and below this hepatised zone. This is then a new variety in pulmonary gout to add to those described by Prof. Potain.

The treatment of visceral gout does not differ, after diagnosis has been established, from that of a joint attack. The doctor has to relieve his patient by local treatment and internal drugs. Local treatment will vary with the part affected and the patient's temperament. Here, for instance, is the local treatment which I should propose for gouty orchitis.

Methyl Salicylate (synthetic) }
Lanoline . . . . . } a.a. gram xx.

As to internal treatment:— 30 to 50 drops of tincture of fresh flowers of colchicum, taken 3 times

a day every 6 hours, with an infusion of ash leaves; and with each dose a cachet of 15 to 25 centigram. of bromo-hydrate of quinine. Once the attack is ended, a return must be prevented; and it is here that a cure at Contrexéville is plainly indicated. It will eliminate the patient's uric acid, and restore, as Dr. Bagard pointed out in 1760, suppleness to the joints. This result can be obtained without weakening the patient, most important in these days of overstrain and nervousness. It will only remain for the gouty subject to avoid contracting it again, by rigorously keeping to prescribed diet.

NOTE.—As it is impossible to obtain the tincture of *fresh flowers* of *Vosgian Colchicum* in England, I have, at the request of many of my patients, had this prescription prepared in the form of a capsule under the name of *Colchiflor*, which can easily be obtained of Messrs. Wilcox and Jozeau, 49 Haymarket, London W., or any first class chemist.

CHAPTER IV

GRAVEL

Nephritic Colic and its Treatment.

THE innumerable sufferers from Gravel that we have seen since 1868 at Contrexéville mostly arrive only after a nephritic colic; sometimes after the second attack, when the first, for reasons which we shall show later, hus been neglected.

However, it is a symptom which, apart from urinary deposits, may lead the way to imminent danger; it is so frequent that it figures in all or nearly all my observations in the shape of a particular sign to which I wish to draw attention. It notifies its existence to the invalid by *renal pains which are greatest on waking in the morning, disappearing with moderate exercise, and only returning with excessive exertion.*

This is the most constant and characteristic sign of embryo Gravel.

Everybody knows that gravel is characterised by *formation in the urine of concretions variable in volume under the influence of various nutrition troubles* (*Retardation of nutrition*, of Bouchard.)

The most common varieties are:

Uric Gravel.

Oxalic Gravel.

Phosphatic Gravel.

The rare varieties are:

Cystic Gravel.

Xanthic Gravel.

Pileous Gravel.

Carbonate of calcium Gravel.

URIC GRAVEL

This, the most frequent form, presents several degrees. Thus the ochreous layer which precipitates on cooling of an urine containing uric acid in excess does not yet show the presence of Gravel. This condition often takes that appearance, and it is at this time easy to fight the uric diathesis. Later on, the sand, now quite formed, is expelled in variable quantities, according to the patient's hygienic condition. Numerous Gravel subjects who have arrived

at this stage only void gravel after irregularities of diet. In fine, these sandy deposits in the bladder become, unless expelled by the natural passages, the nucleus af a stone which grows in volume until lithotrity or cystotomy has to be called into operation.

I could count by thousands the calculi that I have collected at Contrexéville. In certain subjects, the number is prodigious; one individual last year, who is well known, collected for me 123, varying in volume from that of a large pea to that of buck-shot, during his cure at the Pavillon Spring.

When the employment of our waters has been able to expel the calculus by natural passages, it only remains to prevent its return. But how many patients come to Contrexéville only after having undergone an operation which they could have avoided by coming earlier!

Without speaking of stone in the bladder, on which I shall touch later, I wish to say a word on renal calculi and the operations to which they give place.

At the time when I wrote my works on Contrexéville in 1869 and 1879, there was no talk of daring to undertake an operation with the object of making

a direct incision into the kidney and extracting the calculus. Today, this operation is usual; and, thanks to the benefits of antisepsis, can be undertaken with relative immunity.

This immunity has encouraged boldness in several surgeons and led them to operate for calculi capable of passing through natural channels. I only complain, for example's sake, of the three cases I observed at Contrexéville in 1895 and 1898 and 1899. The two first were cases of two gentlemen who came, one from India, and the other from London, after having undergone the operation of nephrotomy, *without success.* In one case a small stone was expelled by the natural channels, after its small size had escaped the operator's notice; in the other case, when the operation, in spite of very large incisions, had given no results, I could only get during his stay at Contrexéville microscopic crystals of calcium oxalate. We shall see later, when I treat of oxalic gravel, that calcium oxalate often gives rise to very violent pains when the concretions are of very small volume. The third case refers to an American lady of 25, who suffered her first renal attack at the age of 3 years. After a double cure

in 1899 at Contrexéville, she passed 7 oxalic concretions and still underwent a nephrectomy at Boston without success.

Thus we may say that, in spite of the wonders of modern surgery, it is wise, unless necessity very clearly indicates it, to try expulsion by the natural passages with a 'cure' at Contrexéville, before having recourse to an operation.

The prodigious discovery of Roentgen had raised the hope that we should arrive at discovering calculi in the kidneys, thanks to X rays. But alas! we must give up this hope, at least as far as uric acid calculi are concerned. In fact, uric acid, being of organic origin, is translucid to X rays. On the contrary, oxalic or phosphatic calculi give an opaque image, but uric acid gravel is much more frequent than the two other varieties.

CAUSES OF GRAVEL

When I put to the patient this question. "Why have you got Gravel?" he generally remains a little confused. But I have not to wait long before making him comprehend the cause of my question. It is, in fact, necessary for the patient and the doctor to know

the cause of a chronic malady, if we wish to prevent a recurrence.

As I pointed out in a paper read in 1876 before the Academy of Medicine, the causes of Gravel are the following, classed in order of frequency.

Heredity in one-third of the cases:—it figures as the origin of gout in more than half my patients. Unfortunately, it is not necessary to point out the hereditary origin of gravel. The parents may have had gout, centainly, but not necessarily, as Sir Henry Thompson has written, in his classic Lectures published at London in 1883; where he has thought it possible to establish a hereditary alternation between gout and gravel. I have only observed this in exceptional cases at Contrexéville. I need not mention again the example of 3 generations coming to Contrexéville in the space of 50 years which I reported in the above-named paper; also that of a child of 15 months subject to attacks of nephritic colic followed by the expulsion of uric sand, while her mother had suffered, during pregnancy, several attacks of nephritic colic, which gave rise to fears of premature confinement.

In short, as Prof. Bouchardat says in his lectures, the heredity of gravel is admitted by everybody;

but we must understand heredity not of the malady, but of morbid disposition. The illustrious Montaigne had gravel at the age of 46; his father had suffered similarly at 67, 25 years after his son's birth; and Montaigne wondered how his father could have, so long after the appearance of his malady, a disposition so intense that "the small piece of his substance from which he formed him was capable of transmitting to his son this same disposition, laying dormant in him during 45 years, without losing its energy."

Disorders of the digestive functions are likewise a frequent cause of uric gravel. When a patient, whose methods and habits have never given a suspicion of gravel, has had a nephritic colic, it is rare not to remark disorders of the digestive functions dating several years back. Under the influence of a Contrexéville cure, the state of his digestive tube improves at the same time as that of his renal functions.

Excess of food (over-eating) is the best known cause productive of gravel. Too much animal food, a too spicy *cuisine*, game, Burgundies, Champagne, too often cause formation of uric acid. The quantity

as well as the quality of the food lead to an excess of receipts over expenses in the economy, which infallibly gives rise to uric acid, unless the patient restores the destroyed equilibrium by proportionate exercise.

Want of Exercise comes next as an etiological factor. In this great category of gravel patients we must class the inhabitants of large towns whom profession or habits hinder from taking the exercise necessary to their health. Certainly, some of them err through over-feeding; but there is large number who, confined all day to an office, however much they limit their food, cannot sufficiently burn up the refuse of the organism, and arrive in due course at the uric diathesis.

Violent moral Emotions can determine in some cases the appearance of gravel and nephritic colic. I brought forward many examples in my brochure of 1876 (p. 21 seq.), and it would take too long to report them here.

Traumatic injuries of the renal region constitute the last cause we can name as producing uric gravel.

I must admit that I have only come across one example of this variety since 1st June 1868, the date of my arrival in Contrexéville. It was the case of a child of 13 years, without hereditary antecedents, who had had nephritic colic in consequence of a fall to the ground from the first floor of a house.

OXALIC GRAVEL.

"The production of calcium oxalate in the economy is one of the most difficult problems for the physician to attack", as my regretted master, Prof. Bouchardat has written.

For my part, I was obliged to study the question and to introduce it at meetings of authoritative medical men, in particular the New York Academy of Medicine (Dec. 1888), and the International Congress of Hydrology, held in Paris, 1889.

If I took it upon myself to touch on this question before a meeting of colleagues in North America, it is because oxaluria is much more frequent in the United States than in France, and for this reason.

Calcium oxalate is met with most frequently in subjects *whose nervous system has been overtaxed, and in dyspeptics.* In the matter of overstrain, we

are far behind North American people. I must admit, however, that old Europe is following in American footsteps and that overstrain, producing oxaluria, makes progress every year. Nothing is more convincing in this respect than the comparative examination of the 35 volumes of my clinical observations, and the analyses appended thereto. Without speaking of the American contingent, which does not figure (or scarcely at all) in the first 15 volumes; I see every year the number of oxaluria patients increase among my countrymen who, in their turn, are also paying their tribute to the *struggle for life.*

To them is addressed a recommendation which, though in a somewhat trivial form, sums up all their duty in two words—*reposer la tête, fatiguer la bête.*

There is no doubt the nervous system plays a part in the production of calcium oxalate; the majority of authors are agreed in this respect; and I am unwilling in this work, designed specially for my patients, to pass in review all the theories of Vulpian, Bouchardat, Gallois in France; Lehmann and Beneke in Germany; Owen Rees and Maclagan in England; as I have done this in my treatise of 1876 (pp. 27—33).

Here, at any rate, is what they should know on the subject.

1.—Calcium oxalate is a body which can be met transiently in the urine of a healthy man, after the ingestion of certain foods or medicines (sorrel, tomato, asparagus, water-cress, beans, ginger, rhubarb).

2.—In the form of stones, which give rise to renal pains and attacks of nephritic colic, it is met with specially in patients whose nervous system has been overtaxed, and in confirmed dyspeptics.

3.—It often exists concurrently with uric acid and has a community of origin with this.

It arises, like its fellow, from nitrogenous materials in the blood whose transformation into urea has been arrested.

4.—It is essentially amenable to cure at Contrexéville. Prof. Bouchardat says in his Treatise on Gravel (1867):

"I have always, in the treatment of oxaluria, preferred alkaline calcic waters to alkaline sodic. I possess several notes proving the incontestable utility of the waters of Contrexéville."

What happens then at Contrexéville during the cure of oxaluria? A patient arrives after having had

one or several attacks of nephritic colic, suffering from renal pains more or less violent and more or less continuous. He is often subject to haematuriae of renal origin, and the least exercise provokes them. His urine on arrival has an exaggerated density—I have seen it attain 1038, and Sir Alfred Garrod has cited a case of 1040—the microscope reveals numerous octahedral crystals of calcium oxalate and some blood globules.

After ten days treatment, the urine taken on waking in the morning (as was that on arrival) is less dense and the blood globules have generally dissappeared; on the other hand, the microscope reveals fine crystals of uric acid associated with crystals of oxalate of calcium. The patient may now take up various forms of exercise; walking, tennis, cycling, without finding blood in the urine. Lastly, a final analysis made on the 20th day of the cure only shows *uric acid* without trace of oxalates; and I warn the patient that this expulsion will continne for 10 or 15 days after the cure.

I possess several hundred similar analyses. In other cases, blood is wanting; in fact, in some cases, oxalate persists, but the rule is that it should give place to uric acid, which disappears in its turn.

The clinique of Contrexéville confirms, as we see, the theory which lays down that, as in the case of uric acid, calcium oxalate proceeds from the arrest in the transformation of nitrogenous substances of our organism into urea; the moment of arrest in transformation being able to produce either calcium oxalate or uric acid. We will not undertake, in a work designed for invalids, a renewed discussion of there questions, as I have done this before elsewhere.

PHOSPHATIC GRAVEL

Phosphatic or white gravel, as opposed to red gravel constituted by uric acid, includes grits of calcium phosphate, magnesia, and ammoniacal magnesian phosphate.

This latter salt is met with much more frequently, and I have found it almost exclusively in the analyses which I have made at Contrexéville of subjects of phosphaturia.

Phosphatic gravel is *primitive* or *secondary* (catarrhal gravel of the books). Often described, this latter is admitted by all practitioners; while the existence of primitive phosphatic gravel has been denied or more or less questioned by the majority

of authors. Yet M. Mialhe, in a discussion at the Academy of Medicine, 13th Aug. 1875, in which Pasteur took an active part, distinctly asserted its existence. Our opinion is that, if in uric gravel one can say that there is an *excess of receipts over expenditure*, we can say, with no less reason, that in primitive *phosphatic* gravel there is an *excess of expenditure over receipts.*

It was on finding renal phosphaturia in anæmic individuals, and on meeting it so often in sailors returned from Cochin China or Senegal, that I was led to give vent to the opinion that these individuals, in whose case a climate (deadly to Europeans) had disturbed the nutritive functions, were burning up (in contra-distinction to uric gravel patients) the organic matters and depositing the mineral matters of their organism. I will confine myself to this enunciation, without entering on a discussion of the opinion of authors, which can be found in the aforementioned brochure.

Again, whatever may be the admitted interpretation, it is beyond doubt that phosphatic gravel gives occasion to the formation of calculi in the kidneys, causing attacks of nephritic colic, which, as

will be seen later, present certain peculiar characters. The indication is always to promote its expulsion and prevent its return; and in this connection, the cure at Contrexéville is, according to the unanimous avowal of the medical faculty, unrivalled; for, after having brought about the expulsion of the stones, as we shall see in the following chapter, it restores normal acidity to the urine.

Secondary phosphatic gravel is met with when an ammoniacal fermentation of urine takes place on emission.

Though still frequent, it has, thanks to antisepsis, and especially to asepsis of instruments employed, diminished in notable proportions; as may be seen by comparing my observations of the last 5 years with those I have collected in my first 5 years at Contrexéville.

This ammoniacal fermentation is characterised by the transformation of urea into carbonate of ammonia, under the influence of the ferment described by Pasteur in 1860.

In the presence of ammonia, the soluble phosphate of magnesia passes into the condition of ammoniacal-magnesian phosphate, which separates out owing to its insolubility in alkaline fluids.

Secondary phosphatic gravel is produced, 1.— by a fermentation in the urine before its emission; 2.—, when the urine has become alkaline from any cause whatsoever.

Prof. Bouchardat, in his treatise on gravel, 1867, attributes this alkalinity to two causes.

I.—*Ingesta.* The use and especially the abuse of alkalines, bicarbonates of soda and potash, of strong alkaline waters (Vichy, Carlsbad) lead, says he, to the deposit of phosphates in the bladder. A diet exclusively of vegetables, composed of fruits, herbs, potatoes, etc., will produce the same effect in rendering the urine alkaline.

II.—*Bladder not emptying well.* These *ingesta* do not produce the same effects in all patients, because in some the bladder is healthy and empties itself completely; while in others a paralysed or inflamed bladder cannot empty itself completely.

The therapeutical indications for treatment of secondary phosphatic gravel are at one and the same time to restore to the urine its acidity, to reestablish contractile power to the bladder, while toning up the patient's general condition, always more or less debilitated.

Without insisting on the tonic and strengthening effects produced by the cure at Contrexéville, well known to most practitioners, we would direct attention specially to this fact, which, at the outset, appears paradoxical:

The water of the Pavillon Spring, though feebly alkaline, restores to alkaline urine its normal acidity.

We have several times had this effect tested in our laboratory at Contrexéville, by colleagues who have come not only from different parts of France, but also from England, Russia, America, Roumania, Greece and other countries.

The explanation is simple: It is by suppressing local inflammation, which in the great majority of cases, is the prime cause of this alkalinity, that hydromineral treatment brings back the urine to its normal state, which is, as we know, acidity.

This result is secured for the most part in patients who have, without success, exhausted the gamut of balsamic remedies and treatment with mineral acids.

RARE GRAVEL

I have never, during these 35 years, met with a single case of xanthine, or calcium carbonate gravel. The latter, in fact, is often found in animals; the only samples I possess come from a dog.

As to *cystine gravel*, which forms concretions of a greenish yellow, characterised by burning with a smell of garlic, I have only noted 2 cases; one in 1869 in a man of 35 years, whose father, arriving with him, suffered from uric gravel; the other, 15 years later, in a patient sent by Dr. Ramond, of Paris, after operation for a voluminous cystine calculus. The first expelled uric acid at the end of his cure, and the second improved here the state of his bladder, still irritable from a recent operation, without my being able to record anything in his urine beyond the gradual diminution of purulent globules under the microscope; nor was there a single crystal of cystine or uric acid. The facts are thus too few to enable me to draw important conclusions.

"Can Gravel be cured at Contrexéville?" is the question of frequenters of the Pavillon Spring, and

why do we find so many well known figures there repeatedly?

Yes, acquired gravel can be cured, if, after expelling the stones and uric acid, people will submit to an appropriate regimen. I have had occasion to meet, among others, M. de R., after 15 years; M. C., after 18 years; M. de T., after 22 years, who had only undergone a single 'cure,' and never had a return of their nephritic colic.

Unhappily, all patients cannot follow the regimen laid down; ask a lawyer or banker to leave business in order to take exercise, he will not do it, and will come again to the Spring; ask a gourmand to undergo strict diet, and he will prefer to come and seek at Contrexéville impunity for his future excesses.

NEPHRITIC COLIC AND ITS TREATMENT

A patient is seized in the middle of the night, often after a heavy meal, with sudden acute pain, often even violent, situated most generally in the side, and one side only; spreading to the abdomen, and sometimes as far as the hip, before it is repeated in the corresponding kidney; being accompanied with nausea and efforts at vomiting, more

or less repeated. The first idea of the patient is to imagine himself poisoned, or at least think he has eaten something indigestible. If the attack ceases before the arrival of the doctor; if it is short, and if attention is not drawn to a later examination of the urine, the *nephritic colic* may be overlooked.

In fact, how many patients we meet whose diagnosis has not been made till after a second attack of colic?

If, on the other hand, the doctor is called in time, he notes the retraction of the corresponding testicle, a pathological sign of nephritic colic, which may well have escaped the patient; he notes that this attack, characterised by side-pains and nausea in the patient, is accompanied by frequent desires to urinate with scarcely any result; in short, he will establish his diagnosis and commence the treatment which we shall indicate.

The duration and intensity of nephritic attacks are variable; sometimes their violence is such that the patient shrieks, rolls on the ground, and gets back to his bed or bath, which he is soon forced to leave if his pain does not cease. As to duration, this varies from several hours to several days; most often, however, the attacks last several hours and

cease abruptly. Generally it is the fall of the stone into the bladder which causes cessation of pain; nevertheless, we observe sometimes attacks of colic without expulsion, and the same stone can occasion several. We may truly say that often they are discharged without the patient perceiving it, especially if the colic has been overlooked. The phenomena of dysuria which accompany the colic are variable, urination is often suspended, there is more frequent desire to urinate; the urine, always scanty and often limpid, is at other times cloudy and blood-coloured. As to the expulsion of the calculus, it often takes place rather long after the attack; and, as it usually occurs without pain, the concretion may escape observation. At other times, the patient does not know that he has expelled his enemy till he hears it resound in the vessel he is using. It is, as will be well unterstood, most essential not to leave a small calculus in the bladder, where it can, as we shall see in the next chapter, give rise to a stone which will necessitate an operation.

To sum up, these are the symptoms of the passage of a stone from the kidney to the bladder, whatever the nature of the gravel. However, the different

species of stones present some peculiar symptoms which we shall explain.

Renal haematuria, which generally precedes the colic by 24 hours or even more, is rare in uric gravel; and, on the contrary, always found with oxalic gravel. It may then warn the patient and the doctor of the imminence of an attack which he will have to avert with the best of his ability.

In phosphatic gravel, there is no renal haematuria, the crises are less acute, but much longer. The pains are more localised on the kidney, whilst in uric and oxalic gravel the patient cannot exactly determine the painful point or rather the place in the side; this will explain diagnostic errors.

Nephritic colic is rare at Contrexéville, where it is only met once in a hundred gravel patients, who expel sometimes very large calculi; in short, the dimension of the stone has no connection with intensity of pain. Small stones of calcium oxalate often cause more pains than large uric or phosphatic ones, and an uric stone of 3 or 4 mm. in diameter may bring on a crisis, while I have seen patients expel daily fairly large stones without any pain. It must be added, truly, that this happened during a cure at Contrexéville.

TREATMENT

In the first place come the local applications, and among these, those which would always be at hand; hot towels, bottles filled with hot water, flat-irons; ice broken in a bag makes a good counter-irritant, but what I prefer is local application of a compress sprinkled with chloroform, which is a good sedative to pains of moderate intensity.

Prolonged warm baths, if they can be tolerated, often soothe the pains, especially when they are accompanied by lime flowers well infused, that is to say, one should put a kilogramme of lime-tree flowers in a vessel of boiling water for a quarter of of an hour before using it for the bath.

But these different means, and many others, such as broad cataplasms with laudanum, leeches and different liniments, as well as sedative drinks, will fail in cases of violent attack accompanied by vomiting. It is then necessary to have recourse either to entrance by the skin, or *per rectum*.

Injection of morphia is so much the custom that there is no longer need, as on my first arrival in Contrexéville, to point out its advantages. It most

often calms an attack of pain, at least for a time. But there are also some cases in which it fails, and others where, owing to intolerance by the patient, it cannot be employed. Here is a remedy which has many times given me the best result. After previously clearing out the intestines by washing with tepid water, I administer the following injection to keep in:

R. Chloral Hydrate: 4 grammes
antipyrine 2 »
yolk of egg. No. 1.
water q. s. p. 125 »

However, some crises are so intense as to resist all medicines. I have found it well in these cases to put into practice the discovery of my eminent master Claude Bernard, on the combined action of morphine and chloroform, by following up injections of morphia with moderated inhalations of chloroform.

CHAPTER V

STONE

When a calculus which has come down from the kidneys settles in the bladder it can give rise, firstly,

to the formation of a stone by the agglomeration of elements of the same nature. Thus we see stones

of uric acid and of urates sometimes very voluminous, as shown by the preceding specimen taken from a patient who came to Contrexéville in 1868 after having successfully undergone cystotomy.

Secondly; stone may be formed by the deposition round the calculus of other salts of the urine, and particularly alkaline phosphates. We have seen above that earthy phosphates are deposited when the latter becomes alkaline, which will take place:

(*a.*) When, after catarrhal inflammation of the bladder, the urine has, in consequence of ammoniacal fermentation, become alkaline.

(*b.*) When this alkalinity has been obtained by the ingestion of alkaline drinks (bicarbonate of soda, potash, lithia, Vichy, Vals, or Carlsbad waters.)

This was exactly the case of the Emperor Napoleon III, the fragments of which were shown to me by Sir Henry Thompson in 1873, soon after the operation. These fragments represented about the half of a flattened walnut. I will not reproduce here the plan of Sir Henry Thompson which will be found in two of my former publications.

It is known that the operation could not be finished, and that the patient died before the lithotrity

had accomplished half its work. The centre of this calculus was formed of uric acids and urates, the peripheral layers of phosphates.

The English surgeon is of opinion that alkaline waters (Vichy in particular) led to the formation of these peripheral layers, still further increased latterly by an irritation of the bladder. Those which corresponded to the period of war, and the fatigues of horse exercise which a patient in such a condition would naturally feel, were, as the operator showed me, irregular and rugous; on the contrary, the last layers, which corresponded to the period of repose at Wilhelmshöhe and Chislehurst, were smooth and regularly stratified.

One cannot help thinking of what might have happened if the Emperor had come in 1866 to Contrexéville, as was debated, and had there expelled his uric acid.

That we may not be accused of lameness of speech, without citing the opinions of numerous authors such as Civiale, Bouchardat, Leroy d'Etiolles Sen., we will confine ourselves to that of Leroy d'Etiolles, Jun., who practised at Vichy and, in his "*Practical treatise on Gravel*," (p. 536), after having spoken of 4 patients

on whom he had operated at Vichy, having come thither in the hope that alkaline treatment would dissolve the calculi, adds:

"The examination of the fragments of stone discharged by these various patients has enabled me to verify a point already noticed by my father, with regard to which I have said a few words touching the influence of regimen and treatment on the nature of concretions.

Certain layers of these calculi were paler than the others, that of B—. one of the patients operated on who had been 4 years at Vichy, had some entirely white; these were layers formed on the surface of the calculi while alkaline treatment lasted. When the patient stops the alkaline treatment and takes up his usual mode of living, the calculus continues to grow, but the layers newly formed are then of the same nature as the primitive nucleus. A fresh alkaline treatment gives rise to a fresh alkaline deposit, and so on." The same author says further:

"These layers are generally formed by urate of soda, calcium, magnesia and double or triple phosphates:" and he adds in another passage. "In the patients I have just mentioned, there was no vesical catarrh."

There is no doubt then, from these examples, of the part played by Vichy in the formation of these calculi.

I will not again enter on the history of the chemist from Lyons (sent to Contrexéville by Prof. Ollier in 1875) who brought with him a calculus of 14 millim.. went on to Vichy, and returned with a calculus of 35 mm., which necessitated 14 operations of lithotrity.

Without pressing the question further, we will sum up the matter thus:

1.—*Every patient suffering from vesical calculus which is not capable of passing out by natural passages ought not to be sent to Contrexéville.*

2.—*The cure at Contrexéville reveals daily the presence of unsuspected calculi, but its action in this regard is not infallible.*

The first point needs no explanation, and certainly no doctor would dream of sending to Contrexéville a patient burdened with a voluminous stone. If, on the contrary, we are dealing with a stone which has given rise to a recent attack and has lain a short time in the bladder, he will expel it during his cure, as we see daily, and as is proved by the numerous

samples expelled at Contrexéville after staying in the bladder for some months only.

The Contrexéville cure reveals every year unsuspected or doubtful calculi, and I possess several hundred examples.

The first in order dates from June 1868, and the patient was no other than Dr. A.—, medical attendant to the Emperor. Having come to Contrexéville to see one of his lady patients, we were speaking together concerning the possibility of a calculus in the Emperor's case, which already presented some symptoms. But this is what Dr. A— answered me. "No, the Emperor has no calculus; he is simply suffering from the prostate. Moreover, your Contrexéville waters irritate my bladder without relieving me; for 2 years since I have been taking Haarlem oil, I have voided no uric acid."

I did all I could to persuade my colleague that this irritation produced by the waters must be the result of a calculus, but he would not admit it. However. he made me an *amende honorable* when, in the following winter, Dr. Cusco had to rid him by lithotrity of a calculus which the Pavillon Spring had revealed.

At other times, it is the patients who have shrunk from an exploration who come and ask of our waters to make a diagnosis. But here our duty is marked out. If we think the calculus is not amenable to expulsion by the natural channels we ought, as I have often done, to prevent the patient commencing a cure without results, which might produce more or less serious dangers.

I was obliged, in 1868, even to push back into bladder the calculus of a patient who, against the advice of Dr. Baud, and refusing to believe that he had a stone, had commenced a cure. The calculus had stuck in the neck, unable to pass, and was causing fearful pains and copious haematuria..

People have wished to make the cure at Contrexéville a criterion as to stone in the bladder; and I confess to have been too sanguine on this subject. *Certainly, in most cases, Contrexéville reveals unsuspected or doubtful stones*, but there are cases where, in subjects who have enlarged prostates with a bladder very much developed, the cure may not reveal a calculus.

In August 1897 I witnessed a case of this nature. A patient with very large prostate, whose bladder

had been explored negatively by two Viennese surgeons, was able to drink for 15 days small quantities of water, about 6 half-glasses, without showing any symptoms of calculus. I succeeded, however, in establishing the diagnosis in spite of the negative explorations made in Vienna, and Prof. Guyon relieved him of a calculus which attained a diameter of no less than 4 centimetres, as the professor wrote in sending us back the patient after the operation.

Since we are speaking of stone and its causes, I cannot pass over in silence the stones which develop round a foreign body when introduced into the bladder. It would be hard to imagine the variety of strange instruments which individuals have introduced into the urethra, with an object I do not wish otherwise to specify. Sometimes they lose their hold on them, and there objects give rise to a calculus by reason of the vesical inflammation set up, and phosphatic deposits which result therefrom.

The calculus has all the more time to acquire a considerable volume in that these people, men or women, do not acknowledge their sufferings till the last moment, when they can bear them no longer.

Without giving a list of these objects, which

would surprise the reader, I wish to speak of cases I have seen at Contrexéville. The first is that of a man who expelled phosphatic calculi having for nucleus some ears of corn; the second came from a young girl, a patient of Dr. Aymé, who expelled *per urethram* a calculus of considerable proportions

Calculus developed round a pencil-case.

developed round a spindle for lace-making. Not being able to reproduce this calculus, as my colleague did not wish to part with it, I am going to show another still more immense which I got from my late friend, Dr. Caudmont, who died in 1878. This calculus originated round a pencil-case introduced by the patient into the urethra, as she said, to

sound herself. The operator seized the extremity C. of the pencil case, which he extracted without difficulty, but he soon perceived the presence of a calculus whose dimensions can be seen above, but which he had not time to operate on, as the patient succumbed too soon. Lastly, a final example of a foreign body as nucleus of a calculus is that reported by Mamelet, who procured in 1826, at Contrexéville, a calculus expelled by Gen. Baron de M. which had as nucleus a fragment of cloth. This cloth resulted from a wound received at Wagram, where the general, then aide-de-camp to Marshal Berthier, had the bladder pierced. A fragment of his clothes had served as the nucleus to a calculus which he had the good luck to expel by the natural passage, though not without acute pain,

To conclude this history of stone, it only remains to speak of the cases of *spontaneous fragmentation of stones in the bladder.* I have collected at Contrexéville numerous examples of this fragmentation, the first of which I presented to the International Congress of Medicine which sat at Brussels in 1874, where practitioners gathered from all parts of the earth.

One of the most interesting questions, and most

difficult of solution, is that of the *mechanism* of the spontaneous rupture of stones in the bladder. The same interpretation cannot apply to all cases, and in those which I have collected at Contrexéville during 35 years, to the number of a dozen, the same explanation will not suit all. I will cite two instances briefly to show my argument. Let us first mention that the two principal theories are those of Civiale: energetic contraction of a hypertrophied bladder; and that of Leroy d'Etiolles and Dr. W. Ord: bursting of the calculus through swelling of the nucleus. The latter explanation (though up to the present one cannot say by what physical or chemical modification the nucleus causes one or several calculi to burst), suits the first 11 cases which I have collected at Contrexéville.

For example:—A man aged 62 comes in 1892 to see me and tells me he has had several attacks of nephritic colic without expelling any sandy deposit. As he presents no symptom of vesical calculus, I decide to make him commence a cure during which he expelled the stones shown below. We can see two nuclei to which are adhering fragments; these fragments continued to be expelled for 15 days after

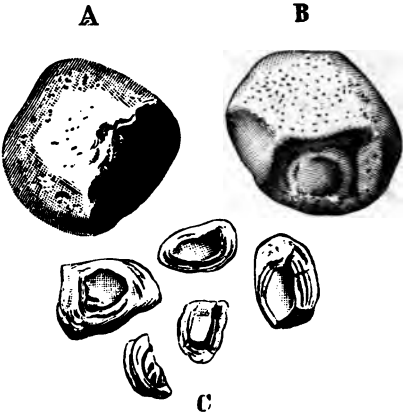
the cure. Returning in 1893, he only expelled uric sand.

Quite a different story is the following: A man aged 63 had been expelling for 30 years uric acid and some stones. For a year, he had been suffering from very acute vesical pains followed by the expulsion of fragments of calculi. Coming to Contrexéville in 1890, he began to drink without medical

Broken calculi, spontaneously expelled during a cure at Contrexéville.

advice 10 or 12 glasses of water. He expelled during his cure voluminous fragments represented at C in the figure below. As the last of these fragments caused him a violent attack of urethral fever, he came to consult me. I immediately stopped the hydro-mineral treatment, undertook an exploration which enabled me to discover the existence of multiple calculi not amenable

to passage through natural outlets. An operation was necessary; it was done by Dr. Segond, at the Hôpital de la Charité and, he made a hypogastric incision. The surgeon extracted 5 calculi of which 2 are shown at A and B. But while calculus A is



Calculi broken spontaneously by the contraction of a hypertrophied bladder.

intact, the second presents traces of an old-existing fracture situated at an angle of the calculus.

It appears to me that here we ought to suspect the theory of Civiale as the cause of the fragmentation. Decidedly, if this patient had come to see

me on his arrival, I would not have allowed him to commence a 'cure', and should have immediately undertaken an exploration. The scope of my work will not allow me to dilate further on a point so interesting as the history of stone in the bladder.

CHAPTER VI

DIABETES

STRUCK by the surprising results which he found during his first year's practice at Contrexéville in cases of diabetes, my much regretted colleague Dr. Brongniart made it the subject of his thesis for admission to the Society of Hydrology in 1876. Numerous doctors who have come to Contrexéville have been, like him, surprised at the results obtained daily in our laboratories during the cure.

Why then, are these effects, so well known abroad, especially in America and England, as we have seen by a passage in Sir Dyce Duckworth's book which disappeared in the French translation:—why, I say, are these effects less known to our French colleagues. It is, I suppose, because for them Contrexéville means only gravel and gout; and they thus limit their field of action, to the great detriment of their clients.

I introduced this question afresh at the Society of Hydrology in 1884, where were met together the *élite* of the physicians practising in French Spas, and I cannot do better than repeat the arguments I used there. The connection of diabetes with gravel and gout have, in our day, given occasion for numerous works which I will not enumerate. Marchal de Calvi is the writer who has most strongly insisted on the community of origin of these various chronic maladies.

He admitted it absolutely, and formulated it thus: "To sum up, what appears most evident in the pathogeny of diabetes, is the influence of uric acid; that is, *the identity of gout and diabetes*, both subordinated to the same morbid unity, the acid diathesis.[1] "

It is true that some authors no less highly esteemed have a diametrically opposed opinion, among others our colleague M. Durand Fardel, who says:

Clinical observation does not allow us to admit that diabetes offers any common relation with uric gravel or gout.[2]

[1] Marchal de Calvi. *Recherches sur les accidents diabétiques*, 1864, p. 640.

[2] Durand Fardel. *Traité des maladies chroniques* 1868 vol. 1, p. 165.

More recently, M. Durand Fardel published in the *Progrès médical*, 12th April, 1879, an essay with this title: *Diabetes is not an arthritic manifestation*, in answer to another essay of M. Cornillon on *The connection of diabetes with arthritis*. The principal arguments brought forward by our colleague may be summed up as follows:

1.—In gout, the principle of the disease is uric acid, which is met in all parts, since it is in the blood.

In diabetes, it is sugar which is recovered from the urine, and which, being conveyed by the blood, determines alterations peculiar to itself.

2.—We meet gouty diabetics, therefore these two conditions do not exclude each other.

3.—If diabetes were only a manifestation of uric diathesis, a common diet would suit the diabetic and the gouty.

Clinical observations at Contrexéville oblige us to decline to share the opinion of our late colleague, and to uphold the opposite side. It shows us that, in every case of diabetes treated at Contrexéville, diminution of glucose has coincided with expulsion of uric acid, which tends to weaken the first of his

propositions. As to the second, if gouty diabetic subjects are met with, we find at Contrexéville a much larger number afflicted with gravel, and these two conditions, derived indisputably from the same diathesis, do not any the more exclude each other.

The last argument of M. Durand Fardel appears indisputable; yet clinical observation at Contrexéville will show patients who are able, though diabetic, to take amylaceous food.

Moreover, the results obtained by hydromineral cure can only be explained by a community of origin for diabetes and the uric diathesis.

I continued by a series of observations of diabetic patients collected at Contrexéville, with examinations by the polarimeter and microscope, the measurement of sugar and urea. In all we see sugar gradually diminish, then disappear, and, on the contrary uric acid show itself under the miscroscope from the 8th to the 12th day of the cure.

In accordance with the programme I have laid down and the dimensions of this work, I will not publish these observations, which appear in the *Annales d'Hydrologie* for 1884, and will limit myself to reporting my conclusions:—

1.—That the efficacy of Contrexéville waters in diabetes is undeniable.

2.—That this action is explained by the diminution of uric acid, which may always be seen to coincide with the diminution or disappearance of glucose during the hydro-mineral cure of Contrexéville.

3.—That the facts just cited would tend to support the theory of Marchal de Calvi as to the identity of the nature of gout and diabetes, both being subordinated to the same morbid unity, uric diathesis. The opinion which I had in 1884 has only been confirmed by many more years of medical practice at Contrexéville, where I have had occasion time after time to discover considerable quantities of sugar varying from 25 to 100 grams per litre in people who did not know it. Among others I found, in 1878, 40 grammes in a client who now carries his 84 years gaily!

In another patient, M. M.... former sub-prefect, whose face is well known in Contrexéville, where he had come simply to pay me the visit of a relation, I found, 6 years ago, 80 grammes. The only symptom he showed was a feebleness in the legs without polyuria, polydypsia, anaphrodisia or loss of weight. But

one particular phenomenon causes me, contrary to my self imposed rule, to relate the history of this patient; and yet there would be a long list of diabetics who have left their sugar at Contrexéville.

This particular phenomenon is a *diabetic cataract*, whose road to recovery all the inhabitants at Contrexéville, as well as the drinkers at the Pavillon Spring, have been able to follow. M.M.—was examined in Paris by M.M. Panas, Prof. of Ophthalmology at the Hôtel Dieu; Trousseau, Doctor to the Quinze Vingts; and at Lyons by Prof. Gayet, who had to operate in 1894, and, on the 23d Feb. 1897, stated that his sight was $^3/_5$ normal, and that the centre of the lens only was at present attacked, and he saw this man, who was previously nearly blind read, though with some difficulty, a letter in ordinary characters.

I should not have spoken of this very interesting patient who raises the question, as yet unsolved, of the *curability of cataract in diabetic subjects*, if he were not one of the best known figures in Contrexéville, where every one was interested in his recovery, as it progressed every year after a fresh cure. I must add that M.M.—who at the outset only

showed, as the sole symptom of diabetes, a weakness of the legs which had caused him to give up shooting 10 years before, can now take walks of 10 miles.

However, I brought before the fifth International Congress of Hydrology, held at Liége, Belgium, 100 cases of diabetes treated at Contrexéville, of which many came from England, and were patients of Sir William Broadbent, Sir Herman Weber, Sir Dyce Duckworth, Sir Francis Cruse, Sir John Banks, Wm. Playfair, and many other colleagues (*Cent Cas de Diabète*, Paris, J. B. Baillière, 1900).

CHAPTER VII

BILIARY LITHIASIS AND HEPATIC COLIC

In 1878, I read a paper before the Society of Hydrology on the treatment of biliary lithiasis and hepatic colic at Contrexéville, including a number of observations, and among them that a nephew of the president of the society, at that time the regretted Dr. Bourdon, who was also a Member of the Academy of Medicine and physician at the Beaujon Hospital.

I shall limit myself here to relating the principal points; viz., dissolve or evacuate the calculi formed in the biliary vesicle, and restore the secretion of bile to the normal; such are the therapeutical indications for biliary lithiasis. The question of the solution of the calculi, whether biliary, or urinary, has had many investigators, without any of them obtaining satisfactory results. In 1877 a former Marine Doctor, Dr. P—, died in Paris in consequence

various laxative powders which are useless to them during the cure at Contrexéville.

On the other hand, the mineral water absorbed at the surface of the intestine and carried to the liver by the portal system causes the hepatic gland to withdraw biliary materials more abundantly from the economy, dilutes this liquid when it is compact and viscous,—in one word, augments its secretion.

Finally, by its reconstituent qualities which it owes to the calcium, iron, and arsenic contained, the Pavillon Spring is clearly indicated for patients rendered anaemic by numerous attacks.

The hydro-mineral cure, while stimulating the contractility of the biliary ducts, determines the expulsion of calculi already formed, when susceptible of passing through the natural passages. We possess specimens of these which exceed the size of a large nut, but we have not tried, in view of the difficulty of the task, to collect all the biliary calculi expelled at Contrexéville.

In fact we cannot be certain of the passage of the calculus to the intestine, as a consequence of the cessation of an attack.

It may have withdrawn into the vesicle, and give

rise to several attacks. We have seen repetitions of separate attacks at intervals of 12—24 hours and more, caused by the same calculus or collection of calculi. We ought to mention here that if the immense majority of renal calculi are expelled painlessly at Contrexéville, such is not the case with the biliary, which before being expelled, often cause hepatic colic.

These attacks most generally start at the pit of the stomach, thus they are, when light, for a long time confounded with *stomach cramps.*

My observations at Contrexéville are in entire agreement with the regretted Prof. Laségue, when he wrote:

"We can say without exception that cramp of the stomach, as writers have been pleased to describe it, *does not exist;* that almost always, if not always, when a sudden violent pain is felt, occupying the epigastric cavity, having no connection with recent ingestion of food, nor the introduction of corrosive poison, and not culminating in an evident indigestion, then we must admit, at once, the existence of a hepatic colic." The diagnosis of hepatic colic can present some difficulty, inasmuch as certain pa-

tients may have previously had nephritic crises, according to the examples we adduced before.

Situation on the right side, sensitiveness in the liver, irradiation of pain to the shoulder blade, absence of retraction in the testicle, and sometimes the appearance of shivering with elevation of temperature, icterus and bronzed colouring of urine will enable as to differentiate hepatic colic from nephritic.

External treatment, moreover, will be appreciably the same; large baths, cataplasms, local applications of chloroform, bags of warm water, broken ice, enemas of chloral and antipyrine, but more especially injections of morphia, will most often succeed in calming the pain. In obstinate cases, I have obtained the best results by following up the injection of morphia with inhalation of feeble quantities of chloroform.

One cause of the production of hepatic attacks, more common than people think, is pregnancy. I have had occasion to observe fairly numerous examples in women who, generally, had had other children without any symptom of liver trouble. The reason of these attacks is in this case purely mechanical, and due to a compression of the biliary ducts by the product of conception,

Can biliary lithiasis be cured at Contrexéville? Happily, I can answer, *yes*, for I possess numerous observations of cures which I have been able to effect after a number of years. The most typical is that of the wife of a colleague in Brussels, seen in consultation with Drs. Crocq, Deroubaix, Dommelaere, and K. van Volxem, who at the time showed a most grave condition in consequence of numerous hepatic crises, which persisted in spite of a cure at Carlsbad in 1875.

Her husband, then physician to the Count of Flanders, thought she was suffering from cancerous cachexia, and when he brought her to Contrexéville in 1876, had very little hope of saving her.

Two cures, however, in 1876 and 1877, worked this miracle, and I have mentioned this case because, from 1877 to 1895, when she succumbed to pneumonia following influenza, she enjoyed perfect health and sent me news of herself every year.

It is rarely that doctors practising at mineral water spas can control the result of past cures dating 18 years back. This is why I have again spoken of this case, so interesting from every point of view. Another sensational cure of gall-stone at Contrexéville is that

of Prof. Sacré, Member of the Academy of Medicine at Brussels. His condition, when he came in 1895 to Contrexéville, was such that his colleagues, not hoping to see him again, had chosen, before they left for their annual vacation, the delegates to attend his funeral. The Professor is not only still alive, but enjoys perfect health.

CHAPTER VIII

DISEASES OF THE PROSTATE

BEFORE starting a chapter dealing with prostate diseases, or, at all events, those which are amenable to cure at Contrexéville, I owe to my readers a description of this gland, which Prof. Guyon has rightly compared in structure to the tonsils.

We shall understand the importance of this gland when Sir Henry Thomson says he has found it hypertrophied in one out of three men over 55 years of age.[1] Prof. Guyon has written that hypertrophy supervenes in 34 cases out of 100 in men of 60 years and over;[2] figures which approximate the previous statement.

The proportion is much more considerable in the patients I have observed at Contrexéville, but

[1] *Diseases of the Prostate, London*, 1885, p. 92.

[2] Leçons sur les affections de la vessie et de la prostate. Paris, 1888, p 447.

here we deal with invalids and not with old men, as is the case with the authors mentioned.

The prostate is a gland of the form and size of a chestnut, situated round the neck of the bladder, which crosses it.

Though existing in man at the moment of birth, it does not actually develop till the moment of puberty, and in the aged sometimes attains considerable dimensions. This gland, or mass of little glands, secretes a colourless and transparent liquid which it pours into the deep portion of the urethra by a variable number of excretory ducts, usually 14 or 16 in number. It is traversed by ejaculating ducts.

This anatomical arrangement enables us to understand how diseases of the urethra and bladder can act on the prostate, and how diseases of this gland can affect the bladder, urethra, and seminal vessels.

The immediate relation of its posterior portion with the end of the large intestine makes it clear that habitual constipation disturbs the functions of the gland, and that hypertrophy of the prostate can be a cause of constipation; finally, it will explain how difficult and bulky stools, whose expulsion necessitates violent efforts, can, by compressing the prost-

ate, provoke expulsion by the urethra of prostatic liquid, and lead the patient, as we have often observed, to believe himself subject to seminal losses. The liquid secreted by the prostate is transparent and viscous, its emission precedes and accompanies ejaculation. Its *rôle* seems to be to facilitate the migration of the spermatozoa in the act of fecundation. When it is expelled alone by the urethra, it is only, in most cases, in consequence of prolonged genital excitement not followed by coition. Frequent repetition of this excitement is generally a more frequent cause than one imagines of diseases of the prostate, and scarcely a year passes without our seeing examples at Contrexéville.

Men of 30 to 40 years of age, a period when the prostate does not act as usual, having been so imprudent the previous winter as to fatigue their prostate to excess by excitement without coition, mention on their arrival troubles in urination, with healthy urine and a heaviness in the perinaeum, which sometimes even makes walking difficult. Exploration of the prostate shows it to be augmented in volume, but generally supple and uniformly swollen, but not irregular as in the case of hypertrophy. The Con-

trexéville cure, which consists in drinking and sitz-baths of running water, brings about a gradual retrogression of the gland, which reassumes, slowly but gradually, its normal size; dysuric troubles cease little by little, and the patient is cured. But this cure, I am careful to explain on arrival, only takes effect very gradually; and if, as I have sometimes seen, the prostate is very bulky, the result is hardly appreciable at departure. I am insisting on this point, having learnt by experience; in fact, the first patient of this kind that I saw in 1868, who had an enormous prostate which hindered both evacuation and walking, whose numerous and painful acts of micturation reached 12 or 14 by day, and 6 by night, showed on his departure such insignificant results that I thought of stopping hydromineral treatment and ordered him to have recourse to the application of continuous currents. To my great surprise, he returned the next year completely transformed; prostate considerably reduced, one urination only at night, walking easy, allowing him to do 8 or 10 miles at a time, stools natural without injections. He confessed to me that amelioration had been gradually increasing during the 3 months which followed his first visit

to Contrexéville, and the second cure completed his recovery. Chronic prostatitis may follow on an acute prostatitis, which I do not consider curable at Contrexéville; but it may start all at once by the chronic state, and in this case it more often is consecutive to an affection of the urethra or bladder. An urethritis, or more often the injections, generally abortive, which it has necessitated, are one of the commonest causes of prostatitis.

Traumatic injury, whether internal, such as forced passage (or badly directed) of a metallic instrument, or caused externally, such as a contusion of the perinaeum, are also causes of inflammation of the prostate. Lastly, we will mention the use of irritants like cantharides, and also chills, such as the one I spoke of in a patient who, being caught in a storm, remained sitting in the water, which had transformed his box-seat into a veritable sitz-bath.

I will not undertake to enumerate the frequent successes of the Contrexéville cure in sub-acute and chronic prostatitis. Its action is well known. The gland re-assumes gradually, and, I repeat, slowly, its normal volume, micturition troubles cease, and the general condition of the patient mends along with local conditions.

But the effects of the cure are no less remarkable in *hypertrophy of the prostate* in old men, if the latter appeal to its efficacy before their bladder has entirely lost its contractility.

In fact, as a hypertrophied prostate is an obstacle to the emission of urine, it is only by means of considerable efforts that an old man can empty his bladder more or less completely. This struggle lasts for a long or short time, till one day the bladder which, in prostatic subjects, is generally enlarged, loses all contractive power; then comes incurability. On the other hand, as long as contractility persists, the Contrexéville treatment, by stimulating it, and strengthening the muscular coating of the bladder and diminishing the size of the prostate, leads to results which Civiale has brought into prominence in his remarkable works on the urinary passages. [1]

Moreover, in order to prove the influence of prostatic hypertrophy on the loss of vesical contractility, it suffices to observe what happens in the case of woman. Never, during, these 35 years, have I observed a case of senile retention in an old woman, and I

[1] Practical treatise on diseases of the genito-urinary organs. Vol. III p. 525.

do not know of any author who has remarked on it.

The stagnation of urine, its decomposition, catarrh of the bladder, retention, such are the real and always serious complications of prostatic hypertrophy in the aged.

Before speaking of the results obtained at Contrexéville, let us look at the means laid down to combat this redoubtable infirmity. Sir H. Thompson, in his *Treatise on diseases of the Prostate*, proposes to treat chronic prostatitis as follows: "I know nothing more efficacious than an irritation produced on the perinaeum during 4, 6, or 8 weeks, if we wish to obtain a result. This irritation can be produced by applications of a crayon of silver nitrate as far as the bulb of urethra, so as to destroy the skin for an extent of 3 centimètres by 5. But I prefer the application of vinegar of cantharides, (B. P.); it is necessary to keep the wound open by daily applications."

As to the treatment of more recent hypertrophies, they consist in operating for castration, or sectionizing the vas deferens. Double castration, produced by Launois in 1884, after experiments on

animals, was especially recommended in June 1893, at the Congress of the American Association at Buffalo by Dr. White, who produced a certain number of facts showing retrogression of the prostate after castration. In an essay published in the *Bulletin Médical* (19th to 25th June 1895), M.M. Launois and Picquois cite 53 examples of double castration practised in America and England, in which the great majority were followed by satisfactory results, but in every case, *if the vesical muscle is tainted with degeneration, it did not recover its contractility.*

We doubt if this practice will become general in France, even if we insert subsequently in the scrotum deprived of its testes artificial celluloid organs, as Humbert and Tuffier have done in France, and Robert Weir, White and Hermance in America.

Finally, the last treatment proposed for remedying the inconvenience caused by hypertrophy of the prostate in old men consists in resection of the cord. The last work which has appeared on this subject in *The Lancet* of 8th Jan. 1898 is due to Mr. Reginald Harrison; the eminent English surgeon declares that this procedure brings on atrophy of the prostate just as much as castration, and without affording the

same inconveniences, and that it behoves us to operate successively on the two cords and to resect them for a certain length; and, moreover, that this operation is applicable, in the same way as castration, to men of advanced age, in whom the genital function has ceased to be a matter for consideration.

After this exposition, and in view of results obtained in men over 65 years affected with hypertrophy of the prostate and various complications, but without *complete* loss of vesical contractility, I would ask of every reader if it is not 100 times preferable to try the cure at Contrexéville rather than expose one's self to deprivation of the testes!

We must add that during the last 2 years castration and vasectomy have been more or less abandoned. Prostatectomy is now quite *à la mode.* This operation, which consists in extirpation of the prostate either by the perinaeum, as done by Prof. Albarran in Paris, or by abdominal section, as preferred by Freyer and Reginald Harrison in London has numerous successes claimed for it by these authors.

If, on the contrary, the bladder has entirely lost its elasticity, the cure has no longer any utility. It

cannot raise the dead! But if there still remain ever so little contractility, we shall be surprised at the results obtained. Though I am not able to cite here all the cases of which I have been witness, I cannot refrain from mentioning an example of re-establishment of vesical contractility in an old man. M. S...., aged 70, is afflicted with senile hypertrophy with deviation of the canal, heaviness in the perinaeum, constipation, frequent and scanty urination, merely a feeble jet amounting to hardly anything.

It is necessary to use a catheter so as to empty the bladder, and the urine contains a quantity of pus. During his cure, the number of urinations diminishes gradually, the emitted quantity increases, the jet gets reëstablished very gradually, and he can, after the first cure, limit himself to one catheterization instead of six; after his second cure, and thanks to 8 bottles a month and cold affusions on the perinaeum, he urinates naturally without pain; empties his bladder and preserves this result up to his death, which happened 8 years later, from causes having no connection with the bladder. In the case of patients whose contractile power is still

susceptible of being stimulated by the action of mineral water, the result, in spite of age, is most satisfactory; it is, in fact, one of the reasons of the success of Contrexéville in vesical catarrh, to which we are now going to devote our attention.

leagues and their patients. On leaving a hospital, does not a patient think of his companions in suffering?" [1]

More recently, Sir Francis Cruse, at the time that he was President of the College of Physicians in Ireland, published in *The Lancet*, 20th June 1885, the history of one of his patients (female). It was a case, no longer of an old man, but of a young girl suffering from chronic cystitis which had resisted all treatments and was cured after an season at Contrexéville.

But what presents special interest in this case is that, the patient having died several years after the cure of her cystitis, her family desired an autopsy, in order to show the cause of this sudden death. In the course of this examination Sir Francis Cruse and Sir Geo. Porter found tubercles in the brain, but the bladder and its appendages, including the kidneys, were *perfectly healthy*. We will conclude with this quotation of authors, who are, we repeat, unanimous in attesting the good results of a cure at Contrexéville in chronic cystitis and vesical catarrhs. The majority of these authors employ the terms chronic cystitis and vesical catarrh indifferently. Others (Dupuytren) have described mucous catarrhs, mucoso-

[1] Gazette des Hôpitaux, 29th Apr. 1865.

purulent and purulent, to which Mercier has added a fourth variety, called by him glairous catarrh.

Without entering into anatomical considerations, which would be out of place in a work of this kind, written at the request of my patients and for their benefit, I will say how I distinguish, *clinically*, *chronic cystitis* and *vesical catarrh.*

First of all I will say that I do not know what mucous catarrh is, not admitting mucus as an element of urinary deposit. In fact Méhu has said so before I did at the Academy of Medicine, and I entirely share his manner of thinking. How many times it has been my lot to show in my laboratory at Contrexéville cloudy deposits formed in the lower part of a conical glass in which the urine of my patients waited for 3 or 4 days before being analysed; and this to such eminent *confrères* as the regretted Prof. Broca, Drs. Bucquoy and Jules Simon of Paris, W. Playfair of London, Freeman of Bath, Keyes of New York, Rosenberg of St. Petersburg, Petrini of Bucharest, among others. All of them answered me that this cloudiness was mucus and when I took a drop of the deposit and showed it them under the microscope, they were all surprised to see that

this light cloud, rather whitish, was either very fine uric acid, oxalate of calcium, pus corpuscles, or an association of these different pathological elements; but as to mucus, there was none. This fact being well established, I will say that, for my part, when the urine is acid, whatever may be the quantity of pus, which is at times very considerable, there is *chronic cystitis;* when, on the contrary, the urine is alkaline, and there is ammoniacal fermentation with glairous deposits microscopically made up of ammoniacal magnesian phosphates (resulting from the decomposition of pus), there is *vesical catarrh.*

Chronic cystitis may follow on an acute cystitis arising from different causes, as: chill, seen by an example in the preceding chapter, where a patient had contracted, while driving an open carriage in a storm, a cystitis and prostatitis both together; or, again, injections known as abortive, blenorrhagia, etc. lastly, tuberculosis may give rise to a cystitis; and, in my opinion, the remarkable case reported by Sir Francis Cruse belongs to this variety.

Vesical catarrh is met with chiefly in old men with hypertrophied bladder, who, not being able to empty the bladder, are obliged to have recourse to

the catheter. Nothing was more common in former times, when antiseptic precautions were a dead letter, than the introduction by instruments of the ferment which produces ammoniacal decomposition of the urine. Prof. Gosselin and his assistant at the time, Dr. Albert Robin, treated this question fully and powerfully in 1874 at the Academy of Medicine.

Thanks to antisepsis, there is certainly a diminution in the number of catarrhs of the bladder, at least so far as I can judge by practice at Contrexéville. Certainly, the number of hypertrophied prostates has not diminished, and we do not think that castration, in France at least, is going to diminish the number; but the dangers of catheterisation by infected instruments has in a great measure been banished; and, though we still find pus in the urine of the aged who possess large prostates, it is only exceptionally that we find phosphates.

The importance of the observation cannot escape the reader's attention when we remind him that, till lately, certain of these patients were obliged to undergo lithotrity every six months for stones which used to form in their bladder in consequence of this incessant production of phosphates.

Without publishing observations, though I possess remarkable ones of septuagenarians, who owe to the Contrexéville cure the calm of their latter years and freedom from the horrible servitude of the catheter, I will limit myself to repeating: *Mineral water, while reestablishing vesical contractility, by diminishing the size of the prostate, is the remedy* par excellence *for chronic cystitis and vesical catarrh.* Only patients whose vesical contractility is entirely destroyed will have to give up the benefits of the hydro-mineral cure.

CHAPTER X

INCONTINENCE OF URINE IN CHILDREN. UTERINE CATARRH

It was in 1879 that I employed Contrexéville Water for the first time in the treatment of incontinence of urine in a little girl of 4 years old, basing my action on results obtained on the bladders of old men, in whose case it restores or, at least, stimulates contractility. But before we can understand how incontinence of urine can arise in children, it behoves us to comprehend exactly the mechanism of urination, as established by the researches of modern physiologists.

All the fibres of the bladder contribute to the expulsion of the contents of the bladder.

The true sphincter is seated outside the bladder; it exists, in man, in the membranous portion of the urethra, a veritable urethral muscle. In woman a slightly developed fasciculus of muscular fibres re-

presenting in her the muscles of Wilson, helps to the same result.

The loss of resistance and sensibility in the membranous sphincter is the most frequent cause of incontinence which is called *essential.*

Trousseau, it is true, considered this affection as a nervous state characterised by extreme irritability of the bladder and increase of its expulsive force; he based the truth of his assertion moreover, on the results which he obtained from the employment of belladonna. Although the results obtained by this method are very often decisive, we think that there may be a different way of explaining its mode of action; and for our part, we confess to having met this infirmity most frequently in weakly subjects, whose muscular system was little developed, and we unreservedly share the opinion expressed on this subject by Dr. Onimus. Moreover, the patients who have been traced were all, with but few exceptions, either scrofulous or lymphatic. It appears difficult to explain the action of medicines so opposite as belladonna and strychnine, bromide of potassium and ergotine, chloral and electricity, just to mention the principal ones.

Here two theories arise. *Either essential incontinence is an unique malady*, and in that case belladonna would act by calming the exaggerated susceptibility of the membranous portion; which, being no longer stimulated by the least drop of urine reaching it, will not provoke involuntary miction, while strychnine or electricity only act by giving it more tonicity with which to react against this excitation, and thus arrive at the same end by a diametrically opposite road.

A second theory, more satisfactory from the clinical point of view, consists in dividing essential incontinence into two distinct classes:

1.—Incontinence due to excessive vesical irritability, so well described by Trousseau.

2.—Incontinence due to lack of tonicity in the membranous sphincter, the most frequent cause of the malady.

Numerous treatments have been proposed to combat incontinence; although very varied we sometimes see them fail one after the other.

These treatments can be ranged under two heads:

1.—Belladonna, bromide of potassium, chloral etc.,

which are more particularly suited to the first variety, in which there is excessive irritability;

2.—Strychnine, ergotine, cold water, caustics and electricity, which are applicable, on the contrary, to those numerous cases in which there is lack of tonicity and resistance in the sphincter. To this second variety the hydro-mineral treatment is suitable, and it is owing to the results obtained in vesical atony of the aged that we were led to try its adoption in the case of children.

The results obtained in the children's hospitals of Paris with exported water, and especially those under the charge of Prof. Parrot, Dr. Jules Simon and Dr. Descroizilles, were most decisive; but both at the Children's Hospital and at the *Enfants Assistés*, where the clinical attendance existed, we have only dealt with young subjects.

Other patients of 12, 14 and 17 years of age, under Drs. Cruveilhier, Campardon and Filleau, obtained the same favourable results, always with home treatment.

Later on I had several cases of cure at the Spring in young girls of 18 to 21 years, in whom, despite most varied treatments, incontinence persisted.

One of them, whose incontinence could not be palliated except by subcutaneous injection of ergotine every other day, was radically cured after her season at Contrexéville, and is to-day a happy materfamilias, whilst, before this, her infirmity hindered her family from marrying her.

To sum up this question, I will just add what I have learnt by experience, viz., incontinence of urine in children proceeds most often from want of tonicity of the bladder

The Contrexéville treatment is sovereign in these conditions and perfectly harmless in all cases.

I leave to parents the task of drawing conclusions.

Before terminating this enumeration of diseases which I have been permitted to treat at Contrexéville, I cannot pass over in silence the examples of *uterine catarrh* which have been cured there. The tonic and astringent action of the water from the Source du Pavillon, employed locally in the form of vaginal douches, in conjunction with its internal application, which changed the general condition for the better, has many a time produced excellent results.

Two young women who came, one in 1872 and

the other in 1885, saw the fulfilment of their eager desire for maternity in consequence of the partial cure of an uterine catarrh which was the sole obstacle. The one was mother of a fine boy who has just completed his military service, while the other, who lives in London and came 4 years after her marriage to Contrexéville, on the advice of her uncle, an eminent doctor, to appeal to the efficacy of Contrexéville, has seen her cure followed by her first baby, and subsequently by several others. In the case of these two patients, the only ones of this kind I have had to treat at Contrexéville, no other treatment was put into operation but the mineral water, *intus et extra*, and no cauterisation or application was tried at Contrexéville.

Though not numerous, these facts are none the less most encouraging, and it was my duty to bring them to the notice of my *confrères* and their patients.

CHAPTER XI

EMPLOYMENT OF THE MINERAL WATER AT HOME. CONCLUSIONS

THOUGH I receive every year the visits of patients only come to Contrexéville after having obtained some amelioration by taking the water at home, I must say that one can only obtain cures at the spring itself.

It is no less true that the use of the water at home is beneficial in maintaining or increasing results acquired by the cure, and in preventing relapses which, especially when hereditary, always threaten the invalid.

As to the method of using the water *à domicile*, it must vary according to the patient and the disease.

Some will find it well to make a home-cure in spring and autumn by drinking for 25 consecutive days a bottle each morning before breakfast, in 4 glasses at intervals of a quarter of an hour, while taking exercise.

Others will need to take the same dose for 8 or 10 days each month.

Finally, in certain cases, I have found it well to order a single glass before breakfast and the rest at meals.

I repeat again that all the observations I have published, all those I have collected, and in addition, all those published hitherto by other authors, have been obtained by employing the water of the Pavillon Spring. As to the Spring *La Souveraine*, we employ it on the spot for patients who cannot tolerate iron, and often for hepatics.

The *Source du Prince*, to which country-folk come, in accordance with immemorial tradition, to wash their eyes, is used especially by young girls, because of the greater quantity of iron it contains. As to the springs situated outside the establishment, which have been created or exploited since my work of 1879, I shall await clinical works with observations in support of them before judging.

In describing the Establishment, we spoke of the new Bottling Department. It is known that the bottles and corks, although new and of the first quality, are now washed in sterilised water, and

that the most minute precautions have been taken, at the repeated request of the Medical Faculty, in order to arrive at perfection.

CONCLUSIONS

It seems useless for us to insist on the well-known and universally admitted results of the Contrexéville cure in gout, gravel, diabetes, affections of the liver, bladder and prostate. However highly we may sound its praises, it must always be below that which grateful patients render. Contrexéville owes its solid reputation to successes obtained, and to this alone. We can have no doubt of this after reading the following passage from the report of Dr. Patissier to the Academy of Medicinc.

"At a time when our numerous and diverse Thermal Establishments, all animated by the same desire to make a stir in the world, were getting illustrations made and vulgarising themselves by high-sounding advertisement, no less than by scientific studies and discussions, *Contrexéville* alone, dragged with difficulty from its obscurity by the conscientious treatises of Bagard and Thouvenel, was quietly

waiting for medical opinion to become irrevocably fixed as to its precise value from the gratitude of its clients.

Free from all surprises, from all excitement of public opinion, disdaining a precocious offspring, and starting ephemerally from the mere fact of the multiplicity and certainty of the cures which it has spread all over the world, this beneficent *Source du Pavillon* has arrived at such a point of public notoriety that its name is identified with the idea of gravel no less than that of sulphate of quinine with the idea of intermittent fever. This just praise is accorded to it by all without dispute".

Now this report to the Academy of Medicine dates from 1857, at a time when neither Vittel nor Martigny were created.

On the other hand, we cannot insist too much on the tonic and restorative effects of the cure at Contrexéville, so precious for our generation of the nervous and over-worked. Even in 1861 Trousseau, in his remarkable clinical publications of the Hôtel-Dieu, pointed out the dangers of debilitating remedies, and this danger has done nothing but increase. "You know," said the famous master, "to what an

insane point the use of Vichy waters, Vals, Carlsbad, etc., have been pushed. My opinion is that there does not exist a more dangerous drug in the world. For my part, I have seen more than 500 gouty subjects return from Vichy worse than they went. On the contrary, if you have recourse to feebly mineralised waters, like those of Contrexéville, you will not only have no accidents to fear, but in the majority of cases, you will perceive a remarkable amelioration. When gravel accompanies gout, Contrexéville will give you valuable results."

Charcot, in his lectures at Salpetrière, said further: "The waters of Contrexéville are often very useful in chronic gout; we have employed them many a time in gouty cases of long duration and found the results very advantageous." [1]

These tonic and restorative effects of the cure cannot be insisted on too strongly. They are sometimes surprising; instance the case in 1895 of a Professor at the Collège de France who was enabled, after a cure at Contrexéville, to regain his faculty for work, and was much more struck by this result

[1] Charcot, *Lectures on Chronic Diseases*, p. 243. Paris, Delahaye, 1868.

than by the expulsion of a small stone of calcium oxalate produced by the hydro-mineral treatment.

Does this mean that there are no contra-indications to treatment at Contrexéville? Certainly not; for we have already mentioned patients who have lost all contractibility of the bladder; and will add those whose prostate is too easily congested, and those who have serious cardiac lesions. However, there are some among the latter who have been able to undergo a wisely directed cure without inconvenience, as in the case of a banker from St. Petersburg whom MM. Charcot and Botkine thought fit to send me, in spite of the presence of a huge aneurism of the aortic arch.

However satisfactory the results of the cure may be, they would be even more so, if patients were willing to confine themselves to the hygienic rules which we advise them and not, as is often the case, especially with our compatriots, to come here and purchase impunity for their future excesses!

THE END.

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